

Water Quality Rules and Regulations

Chapter 1

COPY

CERTIFICATION PAGE FOR RULES

Adoption date: March 7, 2000

To guarantee review by the Secretary of State within the 60 day deadline, this package must be submitted to the Secretary of State by: May 5, 2000

GENERAL INFORMATION:

1. Agency: Department of Environmental Quality, Water Quality Division
Address: 122 West 25th Street, Herschler Building, Cheyenne, WY 82002
Agency Contact Person for these Rules: Bill DiRienzo
Work Telephone: 777-7081
2. Are these new rules? ("new" - means the first set of regular rules to be promulgated by this agency after the Legislature adopted a new statutory provision or significantly amended an existing statute. Yes ___ No X
3. Chapter # of rules being created, amended or repealed: 1
4. Does this rule replace an existing rule? Yes X No ___ If yes, which chapter(s)? 1

NOTICE OF INTENDED RULEMAKING TO AG, LSO AND SECRETARY OF STATE

5. Notice of intended rulemaking containing all of the information required by W.S. 16-3-103(a) was filed with the Secretary of State on: January 14, 2000.
6. Notice of intended rulemaking and proposed rules in strike and underscore format were provided to the Legislative Service Office and courtesy copies of the notice and proposed rules were provided to the Attorney General and the Governor on: January 14, 2000.

PUBLIC NOTICE OF INTENDED RULEMAKING:

7. Yes X No ___ (If applicable) Notice was mailed 45 days in advance to all persons who made a timely request for advance notice.
8. Yes X No ___ A public hearing was held on the proposed rules on: March 2, 2000.

FINAL FILING OF RULES:

9. Yes X No ___ A disk with an exact copy of the attached rules is attached or the electronic copy was sent via electronic mail to the Secretary of State on March 8, 2000.
10. Final rules with original signatures were sent to the Attorney General's office for the Governor's signature and filing with the Secretary of State on March 8, 2000.

11. Final rules were sent to the Legislative Service Office the same date listed in number 10 above.

CERTIFICATION BY AGENCY:

The undersigned certifies that the foregoing information is correct.

Date 3-8-2000


Title: _____ Director

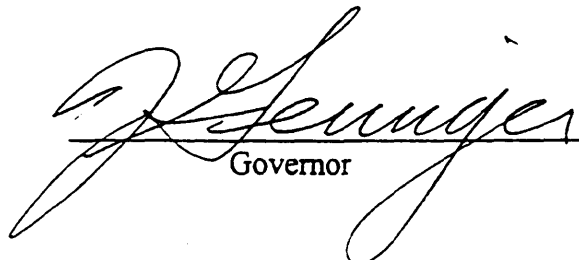
GOVERNOR'S CERTIFICATION

I have reviewed these rules and determined that they:

- (1) are within the scope of the statutory authority delegated to the adopting agency; and
- (2) appear to be within the scope of the legislative purpose of the statutory authority.

Therefore, I approve the same.

3-8-2000
Date Approved


Governor

/pjb
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STATE OF WYOMING
Office of the Secretary
Filed the 9th day of March
2000 at 2:40 P. M.
Joseph B. Meyer
Secretary of State

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Quality Standards for Wyoming Surface Waters

CHAPTER 1

Section 1. **Authority.** These regulations are promulgated pursuant to W.S. 35-11-101 through 1304 specifically 302 (a) (i), and no person shall cause, threaten or allow violation of a surface water quality standard contained herein.

Section 2. **Definitions.** The following definitions supplement those definitions contained in section 35-11-103 of the Wyoming Environmental Quality Act.

(a) "Acute value" means the one hour average concentration. The EPA has determined that this value, if not exceeded more than once every three years on average, should not result in unacceptable effects on freshwater aquatic organisms and their uses. Acute values represent a response to a stimulus severe enough to induce a rapid reaction, typically in 96 hours or less. Appendix B contains acute values for certain pollutants.

(b) "Agriculture" means water uses which include irrigation and/or stock watering.

(c) "Best Management Practices" means a practice or combination of practices that after problem assessment, examination of alternative practices and appropriate public participation, are determined to be the most technologically and economically feasible means of preventing or reducing nonpoint source pollution.

Best Management Practices (BMPs) are adopted in accordance with procedures outlined in the Wyoming Continuing Planning Process (CPP) after problem assessment, examination of alternative practices, and appropriate public participation. In instances where a conflict arises as to which practice or practices should be implemented, a committee consisting of the landowner, a representative of the Department of Environmental Quality, and a third, mutually acceptable party, shall be convened to resolve the conflict.

(d) "Chronic value" means the four day average concentration. The EPA has determined that this value, if not exceeded more than once every three years, should not result in unacceptable effects on freshwater aquatic organisms and their uses. Chronic values represent a response to a continuous, long-term stimulus. Appendix B contains chronic values for certain pollutants.

(e) "Cold Water Game Fish " means Grayling (*Thymallus arcticus*), Northern Pike (*Esox lucius*), Salmon (*Oncorhynchus spp.*), Sauger (*Stizostedion*

canadense), Tiger muskie (Esox Masquinongy), Trout (Salmo, Oncorhynchus, and Salvelinus spp.), Walleye (Stizostedion vitreum), and, Whitefish (Prospium williamsoni).

(f) “Construction-related discharge” means discharges of sediment or turbidity related to construction activities in or along waters of the state. Generally, these discharges include but are not limited to construction site dewatering, temporary diversions, runoff from construction sites, excavation or equipment operation beneath the water’s surface, the discharge of dredged or fill material and placement of structural members such as bridge abutments, culverts pipelines etc. into or across any water of the state.

(g) “Dissolved oxygen” means a measure of the amount of free oxygen in water.

(h) “Effluent limitations” means any restriction established by the state or by the administrator of the Environmental Protection Agency on quantities, rates and concentrations of chemical, physical, biological and other constituents which are discharged from point sources into waters of the state, including schedules of compliance.

(i) “Environmental Protection Agency” means the Federal Environmental Protection Agency (EPA).

(j) “Ephemeral stream” means a stream which flows only in direct response to precipitation in the immediate watershed or in response to snow melt, and which has a channel bottom that is always above the prevailing water table.

(k) “Eutrophic” means waters abundant in nutrients and having high rates of productivity frequently resulting in oxygen depletion below the surface layer.

(l) “Existing quality” means the established chemical and biological water quality as of the date of promulgation of these regulations with recognition of the fact that water quality will tend to fluctuate on a seasonal and year-to-year basis depending upon natural fluctuations in water quantity.

(m) “Fecal coliform” means those species within the coliform bacteria group which are present in the gut or feces of warm-blooded animals. The group includes organisms which are capable of producing gas from lactose broth in a suitable culture medium within 24 hours at 44.5 degrees C + .2 degrees C.

(n) “Federal Act” means the Federal Water Pollution Control Act (Clean Water Act) and subsequent amendments to that act.

(o) “Full body contact water recreation” means any recreational or other surface water use in which there is contact with the water sufficient to pose a significant health hazard (i.e., water skiing, swimming).

(p) “Game fish” means Bass (Micropterus spp.), Catfish (Ictalurus punctatus), Crappie (Pomoxis spp.), Grayling (Thymallus arcticus), Ling (Lota lota), Northern Pike (Esox lucius), Perch (Perca flavescens), Salmon (Oncorhynchus spp.), Sauger (Stizostedion canadense), Sunfish (Lepomis spp.), Tiger Muskie (Esox Masquinongy), Trout (Salmo, Oncorhynchus, and Salvelinus spp.), Walleye (Stizostedion vitreum), White Bass (Morone chrysops), and Whitefish (Prospium williamsoni).

(q) “Intermittent stream” means a stream or part of a stream that is below the local water table for some part of the year, but is not a perennial stream.

(r) “Main stem” means the major channel of a river or stream as shown on the latest and most detailed records of the Wyoming State Engineer.

(s) “Micrograms per liter (ug/l)” means micrograms of solute per liter of solution equivalent to parts per billion (ppb) in liquids, assuming unit density.

(t) “Milligrams per liter (mg/l)” means milligrams of solute per liter of solution equivalent to parts per million (ppm) in liquids, assuming unit density.

(u) “Mixing zone” means a limited area or volume of a surface water body within which an effluent becomes thoroughly mixed with the water body.

(v) “Nanograms per liter (ng/l)” means nanograms of solute per liter of solution equivalent to parts per trillion in liquids, assuming unit density.

(w) “Natural” means that condition which would exist without the measurable effects or measurable influence of man's activities.

(x) “Natural biotic community” means the population structures which were historically or normally present under a given set of chemical and physical conditions or which would potentially exist had not the habitat been degraded.

(y) “Natural water quality” means that quality of water which would exist without the measurable effects or measurable influence of man's activities.

(z) “Nephelometric turbidity unit (NTU)” means the standard unit used to measure the optical property that causes light to be scattered and absorbed rather than transmitted in straight lines through water, as measured by a nephelometer.

(aa) "Nongame fish" means all fish species except those listed in Section 2 (p) above.

(bb) "Nonpoint source" means any source of pollution other than a point source as defined by W.S. 35-11-103 (a) (x) and Section 2 (ee) of these regulations and includes underground storage tanks.

(cc) "pH" means a term used to express the intensity of acid or alkaline conditions. A pH value of 7 at 25 degrees C is neutral, with pHs of less than 7 progressively more acid and pHs of greater than 7 progressively more basic (alkaline).

(dd) "PicoCuries per liter (pCi/l)" means a term describing the radiation level of water or solutions. A picocurie is equal to 10^{-12} curie; a curie is defined as 3.7×10^{10} disintegrations per second.

(ee) "Point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged, except those pollutant sources specifically identified as nonpoint in these regulations.

(ff) "Salinity" means the total mineral dissolved constituents, after carbonates have been converted to oxides, organics have been oxidized and bromine and iodine have been converted to chloride. This term is often used interchangeably with the term total dissolved solids.

(gg) "Secondary body contact recreation" means any recreational or other surface water use in which contact with water is either incidental or accidental and in which the probability of ingesting appreciable quantities of water is minimal, such as fishing, hunting and commercial and recreational boating.

(hh) "Storm water" means surface runoff from construction sites or industrial activities which are regulated under Section 402 (p) of the federal Clean Water Act and Chapter 2 or Chapter 18 of the Wyoming Water Quality Rules and Regulations. Excluded from this definition are those storm water discharges associated with industrial activities which are subject to an existing federal effluent limitation guideline addressing storm water.

(ii) "Surface waters of the State" means all permanent and intermittent defined drainages and lakes, reservoirs, and wetlands which are not manmade retention ponds used for the treatment of municipal, agricultural or industrial waste; and all other bodies of surface water, either public or private which are wholly or partially within the

boundaries of the State. Nothing in this definition is intended to expand the scope of the Environmental Quality Act, as limited in W.S. 35-11-1104.

(jj) “Toxic materials” means those materials or combinations of materials including disease causing agents, which, after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the director of the Wyoming Department of Environmental Quality cause death, disease, behavioral abnormalities, cancer, genetic malfunctions, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such organisms or their offspring.

(kk) “Tributary” means those streams or stream segments which flow into or contribute water to another stream, stream segment, downstream reach, or other water body.

(ll) “Undesirable aquatic life” means organisms generally associated with degraded or eutrophic conditions. These may include the following organisms where they have replaced members of the natural biotic community: nongame fish, bluegreen algae, certain diatoms, fungi, tubificid worms, and certain syrphid flies.

(mm) “Warm water game fish” means Bass (Micropterus spp.), Catfish (Ictalurus punctatus), Crappie (Pomoxis spp.), Ling (Lota lota), Perch (Perca flavescens), Sunfish (Lepomis spp.), and White Bass (Morone Chrysops).

(nn) “Wetlands” means those areas that are naturally inundated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in a saturated soil condition. Wetlands generally include swamps, marshes, bogs and similar areas.

(oo) “Wyoming Continuing Planning Process (CPP)” means a planning process involving public participation and political debate and including policies, procedures and programs that result in the definition and implementation of actions that lead to the prevention, reduction and abatement of all forms of water pollution and for the protection and enhancement of water uses in the State of Wyoming. The CPP is continuous in time and is designed to respond to changes in conditions and attitudes. Certified and approved state and area wide water quality management plans prepared pursuant to Section 208 of the federal act describe elements of the CPP and are outputs of the CPP. Such plans include but are not limited to the following:

(i) Water quality monitoring requirements and programs;

- (ii) Definition and assessment of water quality problems;
 - (iii) Identification of alternative solutions, their costs and effectiveness;
 - (iv) Evaluations of their social, economic and environmental impact;
 - (v) Best management practices or procedures and programs for their determination which lead to the control of nonpoint sources of pollution;
 - (vi) Definition of institutional roles, responsibilities and assignments for planning and implementation activities;
 - (vii) Priorities for action;
 - (viii) Procedures for public participation, local government involvement, conflict resolution performance, evaluation, plan update and formal amendments.
- (pp) "Wyoming surface waters" shall have the same meaning as "surface waters of the State" defined in Section 2 (ii).
- (qq) "Zone of passage" means a continuous water route which joins segments of a surface water body above and below a mixing zone.
- (rr) "404 permit" means the permit program established by Section 404 of the Federal Act to regulate the discharge of dredged or fill materials to surface waters of the United States.

Section 3. Water Uses. The objectives of the Wyoming pollution control program are outlined in W.S. 35-11-102 and are specifically designed to maintain the best possible quality of waters commensurate with the following uses:

- (a) Agriculture;
- (b) Protection and propagation of fish and wildlife;
- (c) Industry;
- (d) Human consumption;
- (e) Recreation;

- (f) Scenic value;

and, to achieve the goal of the federal act, which is to achieve, wherever attainable, surface water quality which provides for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water.

Section 4. **Surface Water Classes and Uses.** There are four classes of surface water in Wyoming (see Appendix A for listing):

(a) **Class 1** - Those surface waters in which no further water quality degradation by point source discharges other than from dams will be allowed. Non-point sources of pollution shall be controlled through implementation of appropriate best management practices. In designating Class 1 waters, the Environmental Quality Council shall consider water quality, aesthetic, scenic, recreational, ecological, agricultural, botanical, zoological, municipal, industrial, historical, geological, cultural, archaeological, fish and wildlife, the presence of significant quantities of developable water and other values of present and future benefit to the people.

(b) **Class 2** - Those surface waters, other than those classified as Class 1, which are determined to:

- (i) Be presently supporting game fish; or
- (ii) Have the hydrologic and natural water quality potential to support game fish; or
- (iii) Include nursery areas or food sources for game fish.

(c) **Class 3** - Those surface waters, other than those classified as Class 1, which are determined to:

- (i) Be presently supporting nongame fish only; or
- (ii) Have the hydrologic and natural water quality potential to support nongame fish only; or
- (iii) Include nursery areas or food sources for nongame fish only.

(d) **Class 4** - Those surface waters, other than those classified as Class 1, which are determined to not have the hydrologic or natural water quality potential to support fish and include all intermittent and ephemeral streams. Class 4 waters shall receive protection for agriculture uses and wildlife watering.

(e) Prior to proposing any changes in water classifications, the Department of Environmental Quality shall notify in writing local water users including the water commissioner, soil conservation committee, irrigation districts, county commissioners, and county ASCS. In addition, the Department of Environmental Quality shall notify in writing the Wyoming State Engineer, the Wyoming Water Development Commission, and the Wyoming Game and Fish Department.

All Class 1 and 2 waters are designated as coldwater game fisheries unless identified as a warmwater game fishery by a "ww" notation in Appendix A.

Section 5. Standards Enforcement. The numerical and narrative standards contained within these regulations shall be used to establish effluent limitations for those discharges requiring control via permits to discharge in the case of point sources and best management practices in the case of nonpoint sources. If no permit or best management practice has been issued or implemented for a pollution source the state may, in addition to other appropriate legal action, take direct action to enforce these standards.

The processes used to implement the standards are described in various implementation documents adopted by the department. Such documents are adopted with full public participation and include, but are not limited to, the antidegradation policy, the Wyoming Continuing Planning Process (CPP), the wasteload allocation manual, best management practices, and the toxics control strategy.

Compliance with the conditions of these regulations does not exempt any discharger from the penalty provisions of W.S. 35-11-901.

Section 6. Interstate Compacts, Court Decrees and Water Rights. The department shall, after review and conference with the State Engineer, make recommendations to the State Engineer concerning proposed new diversions which could cause violations of these regulations.

Section 7. Class 1 Waters.

(a) Except as authorized in paragraph (b), no new point sources other than dams, may discharge, and no existing point sources, other than dams, may increase their quantity of pollution discharge, to any water designated as Class 1.

(b) Storm water and construction-related discharges of pollution to Class 1 waters may be authorized and shall be controlled through applicable water quality permits, Section 401 certifications and/or by the application of best management practices. Such discharges shall not degrade the quality of any Class 1 water below its existing quality or adversely affect any existing use of the water. Temporary increases

in turbidity that are within the limits established in Section 23 and that do not negatively affect existing uses can be permitted. For purposes of this section, temporary increases in turbidity shall not exceed the actual construction period. The Department shall impose whatever controls and monitoring are necessary on point source discharges to Class 1 waters and their tributaries to ensure that the existing quality and uses of the Class 1 water are protected and maintained.

(c) Nonpoint source discharges of pollution to Class 1 waters or tributaries of Class 1 waters shall be controlled by application of best management practices adopted in accordance with the Wyoming continuing planning process. For Class 1 waters, best management practices will maintain existing quality and water uses.

Section 8. **Antidegradation.** Water uses in existence on June 27, 1979 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than these standards, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation the Wyoming Department of Environmental Quality may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

- (a) The quality is not lowered below these standards;
- (b) All existing water uses are fully maintained and protected;
- (c) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and
- (d) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

Section 9. **Mixing Zones.** Except for Sections 14, 15, 16, 17 and 28 of these regulations, compliance with water quality standards shall be determined after allowing reasonable time for mixing. Except for the zone of initial dilution, which is the initial 10% of the mixing zone, the mixing zone shall not contain pollutant concentrations that exceed the acute aquatic life values (see Appendix B). In addition, there shall be a zone of passage around the mixing zone which shall not contain pollutant concentrations that exceed the chronic aquatic life values (see Appendix B).

Section 10. **Testing Procedures.** For determination of the parameters involved in the standards, analyses will be in accord with test procedures defined pursuant to: Title 40, Code of Federal Regulations, Part 136, or any modifications

thereto. For test procedures not listed in the Code of Federal Regulations, test procedures outlined in the latest editions of: EPA Methods for Chemical Analysis of Water and Wastes; or, Standard Methods for the Examination of Water and Wastewaters; or, ASTM Standards, Part 31, Water shall be used.

The analytical technique for total uranium (as U) shall be the fluorometric method as referenced in Methods for Determination of Radioactive Substances in Water and Fluvial Sediments, Techniques of Water - Resource Investigations of the U.S. Geological Survey, Book 5, Chapter A-5, pp. 83 - 92.

Where standard methods of testing have not been established, the suitability of testing procedures shall be determined by the department and the EPA using defensible scientific methods.

Section 11. Flow Conditions.

(a) Water quality standards shall apply at all times except during periods of low flow. Low flow can be determined by: 1) using the 7Q10 (the minimum 7 consecutive day flow which has the probability of occurring once in 10 years) for acute exposures, 2) the EPA's biologically based flow method which determines a 4 day, 3 year low flow for chronic exposures and a 1 day, 3 year low flow for acute exposures (ref: Technical Guidance Manual For Performing Waste Load Allocation; Book VI, Design Conditions: Chapter 1, Stream Design Flow for Steady-State Modeling, August 1986, US EPA), or 3) other defensible scientific methods. Whatever method is selected for a specific situation, application of the standards will conform to the magnitude, frequency, and duration provisions as described in these standards.

(b) During periods when stream flows are less than the minimums described above, the department may, in consultation with the Wyoming Game and Fish Department, require dischargers to institute operational modifications as necessary to insure the protection of aquatic life.

(c) Sections 14, 15, 16, 17, and 28 shall apply at all stream-flow conditions.

Section 12. Protection of Wetlands. Point or nonpoint sources of pollution shall not cause the destruction, damage, or impairment of naturally occurring wetlands except when mitigated through an authorized wetlands mitigation process. However, this section does not apply to wetlands created by point or nonpoint sources; nor are such wetlands required to be maintained through continuation of such discharges.

Section 13. Toxic Materials - Except for those substances referenced in Sections 21 (e) and (f), toxic materials attributable to or influenced by the activities of

man shall not be present in any Wyoming surface water in concentrations or combinations which constitute "Pollution" as that term is defined in W.S. 35-11-103 (C) (i).

Section 14. Dead Animals and Solid Waste. In no case shall dead animals of any description be placed or allowed to remain in Wyoming surface waters or be placed or allowed to remain in any location which would result in contamination or threaten contamination of Wyoming surface water.

Except as authorized through a "404 permit", solid waste shall not be placed or allowed to remain in surface waters of the state, nor shall solid wastes be placed or allowed to remain in any location which would cause or threaten contamination of Wyoming surface waters.

Section 15. Settleable Solids. In all Wyoming surface waters, substances attributable to or influenced by the activities of man that will settle to form sludge, bank or bottom deposits shall not be present in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife.

Section 16. Floating and Suspended Solids. In all Wyoming surface waters, floating and suspended solids attributable to or influenced by the activities of man shall not be present in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life, or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife.

Section 17. Taste, Odor and Color. No Class 1, 2, or 3 waters shall contain substances attributable to or influenced by the activities of man that produce taste, odor and color or that would:

(a) Of themselves or in combination, impart an unpalatable or off-flavor in fish flesh;

(b) Visibly alter the natural color of the water or impart color to skin, clothing, vessels or structures;

(c) Produce detectable odor; or

(d) Directly or through interaction among themselves, or with chemicals used in existing water treatment processes, result in concentrations that will impart undesirable taste or odor to public water supplies.

Section 18. **Human Health.** In all Class 1 and 2 waters, the human health values listed in Appendix B shall not be exceeded.

In certain waters, the criteria listed in Appendix B may not be appropriate due to unique physical or chemical conditions. In such cases, human health values may be determined by use of the site-specific procedures outlined in the references listed in Appendix E.

Section 19. **Industrial Water Supply.** All Wyoming surface waters which have the natural water quality potential for use as an industrial water supply shall be maintained at a quality which allows continued use of such waters for industrial purposes.

Degradation of such waters shall not be of such an extent to cause a measurable increase in raw water treatment costs to the industrial user(s).

Unless otherwise demonstrated, all Wyoming surface waters have the natural water quality potential for use as an industrial water supply.

Section 20. **Agricultural Water Supply.** All Wyoming surface waters which have the natural water quality potential for use as an agricultural water supply shall be maintained at a quality which allows continued use of such waters for agricultural purposes.

Degradation of such waters shall not be of such an extent to cause a measurable decrease in crop or livestock production.

Unless otherwise demonstrated, all Wyoming surface waters have the natural water quality potential for use as an agricultural water supply.

Section 21. **Protection of Aquatic Life.**

(a) Ammonia - The toxicity of ammonia varies with pH and temperature and the applicable limitations are included in the charts in Appendix C.

(b) Specific numeric standards for a number of toxicants are listed in the aquatic life "acute value" and "chronic value" columns in Appendix B. These standards apply to all Class 1, 2, and 3 waters. For these pollutants, the chronic value (four day average concentration) and the acute value (one hour average concentration) shall not be exceeded more than once every three years.

(c) Others - For those pollutants not listed in Appendix B or C, maximum allowable concentrations shall be determined through the bioassay procedures outlined in the references listed in Appendix E.

(d) In certain waters, the criteria listed in Appendix B or C may not be appropriate due to unique physical or chemical conditions. In such cases, acute and chronic values may be determined by use of the site-specific procedures outlined in the references listed in Appendix E.

(e) Toxic substances specifically designed to kill or eliminate problem causing aquatic life (such as mosquito larvae or heavy plant growth in irrigation ditches) may be added to surface waters of the state provided such substances are administered in accordance with label directions. However, compliance with label directions shall not exempt any person from the penalty provisions of W.S. 35-11-901.

(f) This section shall not apply to the use of fish toxicants by the Wyoming Game and Fish Department provided such toxicants are administered in accordance with label directions. However, compliance with label directions shall not exempt that agency for the penalty provisions of W.S. 35-11-901 should non-target species or non-target areas be affected.

Section 22. Radioactive Material.

(a) In Class 1 and 2 waters the radiological limits established in the most recent Federal Primary Drinking Water Standards published by EPA or its successor agency shall not be exceeded.

(b) In Class 3 and 4 waters the total radium 226 concentration shall not exceed 60 pCi/l.

(c) In all Wyoming surface waters radioactive materials shall not be present in the water or in the sediments in amounts which could cause harmful accumulations of radioactivity in plant, wildlife, stock, or aquatic life.

Section 23. Turbidity.

(a) In all Class 1 and 2 waters which are cold-water fisheries, the discharge of substances attributable to or influenced by the activities of man shall not be present in quantities which would result in a turbidity increase of more than 10 nephelometric turbidity units (NTUs).

(b) In all Class 3 waters and in Class 1 and 2 waters which are warm-water fisheries, the discharge of substances attributable to or influenced by the activi-

ties of man shall not be present in quantities which would result in a turbidity increase of more than 15 NTUs.

(c) An exception to paragraphs (a) and (b) of this section shall apply to the North Platte River from Guernsey Dam to the Nebraska line during the annual "silt run" from Guernsey Dam.

Section 24. Dissolved Oxygen. In all Class 1 and 2 waters, wastes attributable to or influenced by the activities of man shall not be present in amounts which will result in death or injury to existing aquatic life or which will result in a dissolved oxygen content of less than that presented on the chart in Appendix D.

Section 25. Temperature.

(a) For Class 1, 2 and 3 waters, effluent attributable to or influenced by the activities of man shall not be discharged in amounts which change natural water temperatures to levels which are deemed to be harmful to existing aquatic life.

(b) In all Class 1 and 2 waters which are cold water game fisheries, effluent attributable to or influenced by the activities of man shall not be discharged in amounts which will result in a change of more than 2 degrees F (1.1 degree C) in existing temperatures.

(c) In all Class 3 waters, and in Class 1 and 2 waters which are warm water game fisheries, effluent attributable to or influenced by the activities of man shall not be discharged in amounts which will result in a change of more than 4 degrees F (2.2 degrees C) in existing temperatures.

(d) The maximum allowable stream temperature will be the maximum natural daily stream temperature plus the allowable change, provided that this temperature is not lethal to existing fish life, which is considered to be 78 degrees F (25.6 degrees C) in the case of cold water fisheries and 90 degrees F (32.2 degrees C) in the case of warm water fisheries and Class 3 waters.

(e) With the exception of the provisions of Sections 9 and 11 of these regulations, temperature standards shall apply at all times and at all depths of the receiving water and may not be violated at any time or at any depth.

(f) There shall be no artificially induced temperature change over spawning beds in any Class 1, 2, or 3 waters.

(g) The various requirements of this section may be waived only under the provisions of section 316 (a) of the federal act.

Section 26. **pH.** For all Wyoming surface waters, wastes attributable to or influenced by the activities of man shall not be present in amounts which will cause the pH to be less than 6.5 or greater than 9.0 standard units.

Section 27. **Fecal Coliform Bacteria.**

(a) During the entire year, fecal coliform concentrations shall not exceed a geometric mean of 200 fecal coliform groups per 100 milliliters (based on a minimum of not less than 5 samples obtained during separate 24 hour periods for any 30 day period), nor shall 10 percent of the samples exceed 400 groups per 100 milliliters during any 30 day period in any Class 4 water and at all public water supply intakes.

(b) During the recreation season, (May 1, through September 30) fecal coliform concentrations shall not exceed a geometric mean of 200 fecal coliform groups per 100 milliliters (based on a minimum of not less than 5 samples obtained during separate 24 hour periods for any 30 day period), nor shall 10 percent of the samples exceed 400 groups per 100 milliliters during any 30 day period in all Wyoming surface waters (except those listed in (a) and (c)) and are hereby classified as full body contact recreation waters.

(c) During the recreation season (May 1, through September 30), fecal coliform concentrations shall not exceed a geometric mean of 1,000 fecal coliform groups per 100 milliliters (based on a minimum of not less than 5 samples obtained during separate 24 hour periods for any 30 day period), nor shall 10 percent of the samples exceed 2,000 groups per 100 milliliters during any 30 day period in the following waters which are hereby classified as secondary body contact recreation waters:

(i) The North Platte River from the Casper sewage treatment plant outfall to the Douglas water treatment plant intake.

(ii) The Hams Fork River below the Kemmerer sewage treatment plant outfall.

(iii) The Popo Agie River below the Lander sewage treatment plant outfall.

(iv) Bitter Creek below the Powell sewage treatment plant outfall.

(v) The Little Snake River below the Baggs sewage treatment plant outfall.

- (vi) The Big Horn River below the Worland sewage treatment plant outfall.
- (vii) North Piney Creek below the Big Piney sewage treatment plant outfall.
- (viii) Clear Creek below the Buffalo sewage treatment plant outfall.
- (ix) Chugwater Creek below the Chugwater sewage treatment plant outfall.
- (x) The Belle Fourche River below the Hulett sewage treatment plant outfall.
- (xi) The Powder River below the Kaycee sewage treatment plant outfall.
- (xii) Rawhide Creek below the Lingle sewage treatment plant outfall.
- (xiii) The Shoshone River from the Cody sewage treatment plant outfall to the Lovell water treatment plant intake.
- (xiv) Sage Creek below the Frannie sewage treatment plant outfall.
- (xv) Muddy Creek below the Marbleton sewage treatment plant outfall.
- (xvi) The Medicine Bow River below the Medicine Bow sewage treatment plant outfall.
- (xvii) The Smiths Fork River below the Mountain View sewage treatment outfall.
- (xviii) The Ocean Lake #6 Drain below the Pavillion sewage treatment plant outfall.
- (xix) Pine Creek below the Pinedale sewage treatment plant outfall.

- (xx) Rock Creek below the Rock River sewage treatment plant outfall.
- (xxi) Tensleep Creek below the Tensleep sewage treatment plant outfall.
- (xxii) The North Platte River from the Torrington sewage treatment plant outfall to the Nebraska state line.
- (xxiii) Wheatland Creek below the Wheatland sewage plant outfall.
- (xxiv) The Little Wind River below the St. Stephens sewage treatment plant outfall.
- (xxv) The Wind River below the Riverton sewage treatment plant outfall to Boysen Reservoir.

Section 28. Undesirable Aquatic Life. All Wyoming surface waters shall be free from substances and conditions or combinations thereof which are attributable to municipal, industrial or other dischargers or agricultural practices, in concentrations which produce undesirable aquatic life.

Section 29. Oil and Grease. In all Wyoming surface waters, substances attributable to or influenced by the activities of man shall not be present in amounts which would cause: The oil and grease content to exceed 10 mg/l; or formation of a visible sheen; or visible deposits on the bottom or shoreline; or, damage or impairment of the normal growth, function or reproduction of human, animal, plant or aquatic life.

Section 30. Total Dissolved Gases. In all Class 1, 2 and 3 waters, the total dissolved gas concentration below man-made dams shall not exceed 110 percent of the saturation value for gases at the existing atmospheric and hydrostatic pressures.

Section 31. Salinity. The State of Wyoming is a member of the Colorado River Basin Salinity Control Forum, which includes all states in the Colorado River Basin. This forum has adopted a salinity control program for the basin which has been adopted as Chapter 6 of the Wyoming Water Quality Rules and Regulations.

Appendix A

Wyoming Surface Water Classifications

Format

Waters are listed within each drainage in upstream order. An indented entry is tributary to the previous entry.

National Parks and Wilderness Areas

All surface waters located within the boundaries of national parks and congressionally designated wilderness areas are Class 1 waters. Such Class 1 designation always takes precedence over the classification given in the listing. For example, Dinwoody Creek is shown as a Class 2 water; however, the upper portions are within a wilderness area and those portions are Class 1. The portion below the wilderness boundary is Class 2.

National Forests

Except for waters in wilderness areas and waters listed in this Appendix, all waters within the boundaries of national forests are designated as Class 2.

Great Divide Basin

All surface waters located within the Great Divide Basin are designated as Class 4.

Unlisted Waters

The waters listed are all waters which are named on the USGS 1:500,000 hydrologic map of Wyoming and those previously classified by the department. Unless there is other information available, any unlisted water shall have the same classification as the first listed water to which it is a tributary.

Warmwater Designation

All Class 1 and 2 waters are designated as coldwater game fisheries unless identified with a "ww" notation.

BEAR R 2
WOODRUFF NARROWS RES 2

BEAR RIVER DRAINAGE

THOMAS FK 2

SOUTH FK 2

SMITHS FK 2
MUDDY CR 2

DRY FK 2
HOBBLE CR 2

COANTAG CR 2
LAKE CR 2

ALICE LK 2

SUBLETTE CR 2
TWIN CR 2

ROCK CR 2
NORTH FK 4
CLEAR CR 2
SOUTH FK 4
EAST FK 4

RAYMOND CR 2
BRIDGER CR 2

WARNER SPRING 4

TUNNEL DITCH 4

WHITNEY CANYON CR 4

NEEDLES CR 3
CLEAR CR 4

CHAPMAN DITCH 3

YELLOW CR (BL UTAH STATE LINE) 3
YELLOW CR (AB UTAH STATE LINE) 2

SALT CR 2
PLEASANT VALLEY CR 4

LONG HOLLOW CR 4

SIMS CANYON CR 4
SULPHUR CR 2
MILL CR 2

BAZOO HOLLOW 4
HARMS DR 4
LACHAPELLE CR 4

BELLE FOURCHE RIVER DRAINAGE

BELLE FOURCHE R 2 WW

OWL CR 4
CROW CR 4

MIDDLE CR 4
HAY CR 4

REDWATER CR 2

OAK CR 4

KILPATRICK CR 4
PINE CR 4

HORSE CR 4
SPRING CR 4
BOGGY CR 4
BRUSHY CR 4
MEDICINE CR 4
DEER CR 4
SOURDOUGH CR 4
BLACKTAIL CR 4
WHITE TAIL CR 4
BARNARD CANYON CR 4

LYTLE CR 2
LEFT CR 4
MILLER CR 2
CABIN CR 2 WW

BULL CR 4
CHICAGO CR 4

N FK HAY CR 4
S FK HAY CR 4

SAND CR (ABOVE HWY 14) 1
SAND CR (REMAINDER) 2

S REDWATER CR 2

ALUM CR 4

DEEP CR 4

BARLOW CANYON CR 4

SOUTH PRONG CABIN CR 4

COLD SPRINGS CR 2

RED CANYON CR 4
SPOTTED TAIL CR 2

SUNDANCE CR (AB FAIR-
GROUND POND) 2
SUNDANCE CR (BL FAIR-
GROUND POND) 4
ROCKY FORD CR 4

LOST CANYON CR 4

BELLE FOURCHE RIVER DRAINAGE

INYAN KARA CR 2		THOMPSON CR 4
	HOUSTON CR 4	
	BEAVER CR 4	
		SOLDIER CR 4
ARCH CR 3	MASON CR 4	
	TOMCAT CR 4	
KEYHOLE RES 2 WW	WILLOW CR 4	
	MULE CR (BL I-90) 2 WW	
	MULE CR (AB I-90) 4	
	DEER CR 2 WW	N DEER CR 2 WW
		S DEER CR 4
	WIND CR 2 WW	
		DRY DRAW 4
	MILLER CR 4	DUNBRILL CR 4
		W FK MILLER CR 4
		N FK MILLER CR 4
		S FK MILLER CR 4
DRY CR 4		
TRAIL CR 4		
DONKEY CR 2 WW	GEORGE CR 4	
	DRY DONKEY CR 4	
		LARRY DR 4
		HOMESTEAD DR 4
		DRUM DR 4
		PENNY DR 4
	ANTELOPE BUTTE CR 4	
	STONEPILE CR 4	
BUFFALO CR 4		
RAVEN CR 4		
TIMBER CR 4		
WHITETAIL CR 4		
CABALLO CR 2 WW		
	TISDALE CR 4	
		N TISDALE CR 4
		GOLD MINE DR 4

TREE CR 4
TINY CR 4

BELLE FOURCHE RIVER DRAINAGE

ALLIGATOR DR 4

DUCK NEST CR 4
HORSE CR 4
HOE CR 4
BONE PILE CR 4
DR #2 4
STOCKPILE DRAW 4
LES DR 4

W FK LES DR 4

GRALLA'S GL 4

CLABAUGH DR 4
TANK BATTERY DR 4
DEMOTT DR 4

DRY CR 4
HAY CR 4
THREEMILE CR 4
WILDHORSE CR 4
GREASEWOOD CR 4

MUD SPRING 4

FOURMILE CR 4
ALL NIGHT CR 4
TOWER CR 4
DUCK CR 4
ROBINSON CR 4
DEAN DR 4
BRUSH CR 4
RUSH CR 4
COAL CR 4

S FORK COAL CR 4

KINTZE CR 4

M FORK COAL CR 4

KICKEN DR 4
KOCH CR 4
FIVECARD DR 4

BLACKJACK DR 4

DAVIS CANYON CR 4

BIG HORN RIVER DRAINAGE

BIG HORN R 2

BIG HORN LK 2

PORCUPINE CR 2

TROUT CR 2

CROOKED CR 2
THREE FK CANYON CR 4
SHOSHONE R 2

DEER CR 2

DRY CR 3
SAND DR 4
SAGE CR 4

SIDON CANAL 4
DEAVER CANAL 4
FRANNIE CANAL 4
GARLAND CANAL 2
FOSTER GL 4
COON CR 4
WHISTLE CR 2

ARNOLDUS LK 4

BITTER CR 2

MANTUA DR 4
DEER CR 2
ALKALI CR 2
EAGLE NEST CR 2
BUCK CR 2
IRON CR 2
IDAHO CR 4
SAGE CR 2

COTTONWOOD CR 4
DRY CR 2

BIG WASH 4
POLECAT CR 2

FRANNIE DR 4

N BRANCH WHISTLE CR 3
W BRANCH WHISTLE CR 3

ARNOLDUS DRAIN 2

ALKALI DITCH 2

HOODOO CR 2
FOSTER RES 2
S FK SAGE CR 4
HORNER CR 2

S FK POLECAT CR 4
114F LATERAL 4

BIG HORN RIVER DRAINAGE

BUFFALO BILL RES 2

BECK LK 2
TRAIL CR 2
SULPHUR CR 2
LOCH KATRINE 4

RATTLESNAKE CR 2
CARTER CR 2
S FK SHOSHONE R 2

N FK SHOSHONE R 2

COTTONWOOD CR 2
LOVELL CANAL 4
FIVE SPRINGS CR 2
CRYSTAL CR 2
SALT CR 4
BEAR CR 4
LITTLE DRY CR 4

MOWER CR 2
MARQUETTE CR 2
BULL CR 2
ROCK CR 2
HARDPAN CR 2
BOBCAT CR 2
ISHAWOOA CR 2
ALDRICH CR 2
BOULDER CR 2
DEER CR 2
CABIN CR 2
NEEDLE CR 2
E FK CR 2

TROUT CR 2
BRETECHE CR 2
BIG CR 2
WHIT CR 2
ELK CR 2

SWEETWATER CR 2
SHEEP CR 2
FISHAWK CR 2
EAGLE CR 2
GRINNELL CR 2
MIDDLE CR 2
CROW CR 2
JONES CR 2

BORRON CR 2

BIG HORN RIVER DRAINAGE

SHELL CR 2

S SHELDON GL 4
SHELL CANAL 4
PORTER GL 4
RED GULCH CR 2
BEAVER CR 2
HORSE CR 2
TRAPPER CR 2
WHITE CR 2
CEDAR CR 2
WILLETT CR 2
GRANITE CR 2

DRY CR (BELOW HWY 32) 2
DRY CR (BETWEEN HWY 32
AND HWY 120) 4
DRY CR (ABOVE HWY 120) 2

SOUTH LATERAL 4
RED POINT DR 4
N FK DRY CR 3
OREGON COULEE 4

COAL MINE GL 4
WILEY LK 2

GREYBULL R 2

S FK DRY CR 4

DORSEY CR 4
MCKENNY CR 4
FARMERS CANAL 4

BECK-ALLEN
CANAL 4

SANDSTONE RES 2
WARDEL RES 2
WILLOW CR 4
BENCH CANAL 4
MCGEE GL 4
MEETEETSE CR 2
SPRING CR 4
RODEO DR 4
IRON CR 2
RAWHIDE CR 2
WOOD R 2

SUNSHINE CR 2
N FK WOOD R 2
M FK WOOD R 2

BIG HORN RIVER DRAINAGE

	TIMBER CR 2	S FK WOOD R 2	
	ROSE CR 2	SUNSHINE RES 2	
	FRANCS CR 2		
	PICKETT CR 2		
	ANDERSON CR 2		
	VENUS CR 2		
	PARADISE CR 2		
EAST BASIN DR 4	DEAD HORSE GULCH 4		
ELK CR 3	S FK ELK CR 3		
BIG HORN CANAL 4			
NOWOOD R 2	SAND CR 4		
	WILD HORSE DR 4		
	MCDERMOTTS GL 4	E FK MCDERMOTTS GL 4	
	MILTON DR 4		
	PAINT ROCK CR 2	ALKALI CR 2	
		MEDICINE LODGE CR 2	DRY MEDICINE LODGE CR 2
			MEDICINE LODGE LK 2
		MILITARY CR 2	
		LUMAN CR 2	
		LADDIE CR 2	
		S PAINT ROCK CR 2	
		M PAINT ROCK CR 2	BUCKSKIN ED CR 2
		N PAINT ROCK CR 2	
			LONG PARK CR 2
	BIG COTTONWOOD CR 4		
		MEYERS GL 4	
		BROME DR 4	
	BUFFALO CR 2		
	BROKENBACK CR 2		
		N FK BROKENBACK CR 2	
		S FK BROKENBACK CR 2	
	TENSLEEP CR 2	CANYON CR 2	

BIG HORN RIVER DRAINAGE

LEIGH CR 2
MEADOWLARK LK 2
TENSLEEP LK 2
W TENSLEEP CR 2
E TENSLEEP CR 2

SPRING CR 2
BUD KIMBALL CR 3
MUD GL 3
OTTER CR 2

N OTTER CR 2

BUFFALO CR 3

N FK BUFFALO CR 3
S FK BUFFALO CR 3

SPRING CR 3
RIGHT FK S FK BUFFALO CR 3
LEFT FK S FK BUFFALO CR 3

CANYON CR 2
BOXELDER CR 2

CHERRY CR 2

LOST CR 2
TROUT CR 2
LONE TREE 2
BATES CR 3
HORSE GL 4

COYOTE COULEE 4

FIVEMILE CR 3
TENMILE CR 3
UPPER HANOVER CANAL 4
LOWER HANOVER CANAL 4
FIFTEENMILE CR 3

N FK FIFTEENMILE CR 4
S FK FIFTEENMILE CR 3
M FK FIFTEENMILE CR 4
CROOKED CR 4
DRY COTTONWOOD CR 3
ROCK WATERHOLE CR 4
WILSON SPRING CR 4

NO WATER CR 4

WILDCAT GL 4
E FK NOWATER CR 4

DENVER JAKE DR 4
WAGON PRONG CR 3
HAWKS NEST PRONG CR 3

BIG HORN RIVER DRAINAGE

	MUD CR 4 BUCK CR 4 LITTLE SAND DR 4	
GOOSEBERRY CR 2	GILLIES DR 4 BUFFALO CR 4	
	ENOS CR 2 MIDDLE CR 3 ROOSTER CR 4 LEFT HAND CR 4	LITTLE BUFFALO CR 4
BLUFF CANAL 4 LITTLE GOOSEBERRY CR 2 COTTONWOOD CR (ABOVE HAMILTON DOME) 2 COTTONWOOD CR (BELOW HAMILTON DOME) 4		
	TWENTY CR 4 SPRING GL 4 GRASS CR 4	
		SPRING GL CR 4 COAL MINE DR 4 SAND COULEE 4
	PROSPECT CR 4 WAGONHOUND CR 4	
SAND DR 4		
COAL DR 2 SAND DR 3 KIRBY CR 4	MILLER DR 4	
	BLUE SPRINGS DR 4 LAKE CR 2 ALKALI CR 4 W KIRBY CR 2 HAYSON DR 4	
OWL CR 2	MUD CR 2	
		N FK MUD CR 2 M FK MUD CR 2 S FK MUD CR 2
	RED CR 2 ANCHOR RES 4 N FK OWL CR 2	

BIG HORN RIVER DRAINAGE

M FK OWL CR 2
S FK OWL CR 2

BLACK WILLOW DR 4
WARM SPRINGS CR 4
BUFFALO CR 2

GRASS CR 2
JONES CR 2
DITCH CR 2

RED CANYON CR 4
CROOKED CR 2
SLICK CR 4

CHEYENNE RIVER DRAINAGE

CHEYENNE RIVER 3

LINE CR 4
BEAVER CR 2 WW

SHEEP CR 4
STOCKADE BEAVER CR 2

BLACKTAIL CR 4

S BEAVER CR 4

OIL CR 4

MUSH CR 2 WW
FIDDLER CR 4

IRON CR 4

SPOON DR 4
POISON CR 4
SHEEP CANYON CR 4

BRUSH CR 4
INDIAN CR 4

E INDIAN CR 4
PLUM CR 4

ROBBERS ROOST CR 4

WILDCAT CR 4

ALKALI CR 4
MULE CR 4
BRIDGE CR 4
LANCE CR 2 WW

OLD WOMAN CR 3

WHOOPI CR 4
SALT CR 4

WINDMILL DR 4

ROUGH CR 4
TIMBER CR 4

LITTLE OIL CR 4

SKULL CR 4

N FIDDLER CR 4

E IRON CR 4
TURNER CR 3
PUMP CR 4
SODA CR 4
C V & A RES 4

CAMBRIA CR 4

ANTELOPE CR 4
ALUM CR 4
HAT CR 2

SPRING CR 4

CHEYENNE RIVER DRAINAGE

	CRAZY WOMAN CR 4	YOUNG WOMAN CR 4 COW GULCH 4	
	DOGIE CR,4	BUCK CR 4	E FK BUCK CR 4
	COW CREEK 4	SPRING CR 4	
	LIGHTNING CR 4	LITTLE COW CR 4	
		TWENTY MILE CR 4 WALKER CR 4 DRY CR 4	
		BOX CR 4	POISON DR 4 N FK BOX CR 4 S FK BOX CR 4 ANTELOPE DR 4
	SPRING CR 4 LITTLE LIGHTNING CR 4 BLISS CR 4		
HANSON DR #24 4 HANSON DR #1 4 SNYDER CR 4 COUNT CR 4 LODGEPOLE CR 4	WILDCAT CR 4 HAY CR 4	E FK HAY CR 4 W FK HAY CR 4	
	LONE TREE CR 4 SAGE CR 4		
BLACK THUNDER CR 3	LITTLE THUNDER CR (AB N PRONG) 4 LITTLE THUNDER CR (BL N PRONG) 2 WW	PINEY CR 4 TRUSSLER CR 4 N PRONG LITTLE THUNDER CR 4 W SCHOOL CR 4	
			BURNING COAL DR 4

CHEYENNE RIVER DRAINAGE

	PRAIRIE CR 4 BUCK CR 4 BACON CR 4 BENNETTS BRANCH 4 HA CR 4	S FK HA CR 4 EASTERN DR HA CR 4
FROG CR 4 KEYTON CR 4 PORCUPINE CR 4 DRY FK CHEYENNE R 4	CALAMITY GULCH 4 DUCK CR 4 JENI DRAW 4	SHELLY DR 4 BRUSH CR 4 WILLOW CR 4
	BROWN SPRINGS CR 4 S FK DRY FK CHEYENNE R 4 M FK DRY FK CHEYENNE R 4	COWELL DR 4
ANTELOPE CR 2 WW	PORCUPINE CR 4 SCHOOL DRAW 4	RED DRAW 4 RED FOX DR 4 COYOTE DR 4 RATTLESNAKE DR 4 PEABODY DR 4 JUDI'S DRAW 4 SANDEE'S DRAW 4 ROGER'S DRAW 4
	LOGAN DR 4 SPRING CR 4 SAND CR 4	BEAR CR 4
	BETTY RES 3 BATES CR 2 WW NINEMILE CR 4 WIND CR 4	GENE DRAW 4 S FK BEAR CR 4
		AVERY DR 4

CHEYENNE RIVER DRAINAGE

N FK WIND CR 4
S FK WIND CR 4

LEIMSER STOCK POND 4

GREEN RIVER DRAINAGE

GREEN R (AB NEW FK R) 1
GREEN R (REMAINDER) 2

SHELL CR 4

ALKALI CR 4

SAND CR 4

VERMILLION CR
(AB CANYON CR) 2
VERMILLION CR
(BL CANYON CR) 3

CANYON CR 2
COYOTE CR 2

RED CR 2
SPRING CR 4

FLAMING GORGE RES 2

HENRYS FK 2

ANVIL HOLLOW 4
DRY FK HENRYS FK 4

ANVIL WASH 4
SUGARLOAF MARSH 4
WASHAM WASH 4
SQUAW HOLLOW 4
BUCKBOARD WASH 4
CURRANT CR 2
BLACKS FK R (BL SMITHS FK) 3
BLACKS FK R (AB SMITHS FK) 2

SUMMERS DRY CR 4

DRY CR 4
LITTLE DRY CR 4

CHICKEN DRAW 4
MEADOW SPRINGS WASH 4
SEVEN MILE GL 4
HAMS FK 2

ZIEGLERS WASH 4
CRAVEN CR 4
WILLOW CR 2

KEMMERER RES 2

DEMPSEY CR 4
BEAVER CR 2
W BRANCH HAMS FK 2

DRY MUDDY CR 4
MUDDY CR 2

LITTLE MUDDY CR 3

ALBERT CR 4

CLEAR CR 4

GREEN RIVER DRAINAGE

			SHURTLEFF CR 4 BYRNE CR 3
		RYCKMAN CR 4 BELL CR 4 SHEEP CR 4	
		CARTER CR 4 CHICKEN CR 4 N FK LITTLE MUDDY CR 3	N FK SHEEP CR 4
			DRY CR 4 SKULL POINT RES 2 WHITLER DR 4 GABARDI DR 4 THOMAS DR 4 YANNI DR 4
		FISH CR 4 E FK MUDDY CR 2 W FK MUDDY CR 2	
AUSTIN RES 4 SMITHS FK 2		COTTONWOOD CR (UPPER 8 MILES) 2 COTTONWOOD CR (REMAINDER) 3 SAGE CR (UPPER 10 MILES) 2 SAGE CR (REMAINDER) 3	
		LITTLE DRY CR 2 WILLOW CR 2 E FK SMITHS FK 2 W FK SMITHS FK 2 S CR 4 LYMAN DR 4	
	HORSE CR 2 LITTLE BLACKS FK 3 SCOOP SHOVEL CR 4		
	SHUTE CR 4	GROSHON CR 2 CLAY DRAW 4	
SAGE CR (LOWER 3 MILES) 2 SAGE CR (REMAINDER) 3 FIREHOLE CANYON CR 4 BITTER CR (AB PT OF ROCKS) 3 BITTER CR (BL PT OF ROCKS) 4 LITTLE BITTER CR 3		WORM CR 4	

GREEN RIVER DRAINAGE

SWEETWATER CR 4
KILLPECKER CR 4

LONG CANYON CR 4
CEDAR CANYON CR 4
PINE CANYON CR 4
NITCH CR 4

SALT WELLS CR 3

PRETTY WATER CR 4
JOYCE CR 4
DANS CR 4
E SALT WELLS CR 4

ALKALI WASH 4
BROOKS DRAW 4

BLACK BUTTE CR 4
HORSETHIEF CANYON CR 4
DEADMAN WASH (AB BRIDGER
PLANT) 4
DEADMAN WASH (BL BRIDGER
PLANT) 2 WW

NINE MILE WASH 4
NINE AND ½ MILE WASH 4
TEN MILE WASH 4

PATRICK DRAW 4
N FK BITTER CR 4

ALKALINE CR 4

S FK BITTER CR 4

SAND CR 4
PINE CR WASH 4

GREASEWOOD CANYON CR 4

GREENS CANYON CR 4

ALKALI CR 4

SKUNK CANYON CR 4

WATER GAP WASH 4
BIG SANDY R 2

BONE DRAW 2
SIMPSON GULCH 4
PACIFIC CR 2

JACK MORROW CR 4

ROCK CABIN CR 3
LA FONTE CANYON CR 4

DRY SANDY CR 4

WHITEHORSE CR 4

JUEL CR 4
HAY CR 2

GREEN RIVER DRAINAGE

	EDEN RES 2	LITTLE SANDY R 2	PACIFIC CR 2 DRY SANDY CR 3
BIG SANDY RES 2	WATERHOLE DR 3 FOURMILE GULCH 4	BUCKHORN CANYON CR 4 LOMBARD CANYON CR 4 EIGHTEEN MILE CANYON CR 4	
SLATE CR (AB HWY 189) 3 SLATE CR (BL HWY 189) 2	SHEEP CR 4	WILLOW CR 3	
	N FK SLATE CR (UPPER 6 MILES) 2 N FK SLATE CR (REMAINDER) 3		
FONTENELLE RES 2	FONTENELLE CR 2		
MUDDY CR 3 LABARGE CR 2 BIRCH CR 3 FOGARTY DR 4 REARDON DR 4 DRY PINEY CR 2	ROCKY CR 2		
	SAWMILL CANYON CR 4 BLACK CANYON CR 2	CABIN CR 4	
S PINEY CR 2	BEAVER CR 2	SPRING CR 2	
	FISH CR 2		
M PINEY CR 2	N CHANNEL M PINEY CR 2		
N PINEY CR 2	RED CANYON CR 2 SIXTY SEVEN RES 2 APPERSON CR 2		
MUDDY CR 2	MEADOW CANYON CR 3 BILLY CANYON CR 4 ANTELOPE DR 4		
ALKALI CR 4			

GREEN RIVER DRAINAGE

NEW FK R 2

GRANITE WASH 4

ALKALI CR 4
SAND SPRINGS DRAW 4
E FK NEW FK R 2

MUDDY CR 2
SILVER CR 2

BOULDER LK 2

BOULDER CR 2
MIDDLE FK LK 2

FALLS CR 2
BURNT LK 2

LAKE SEGUA 2

POLE CR 2
HALFMOON LK 2
PINE CR 2
FREMONT LK 1

LONG LK CR 2
ISLAND LK 2

DUCK CR 2
SODA LK 2
WILLOW CR 2
WILLOW LK 2

NEW FK LAKES 2
MARSH CR 2
COTTONWOOD CR 2

S COTTONWOOD CR 2
KILLPECKER CR 3
N COTTONWOOD CR 2

SPRING CR 3

HORSE CR 2

S HORSE CR 2
N HORSE CR 2

FORTY ROD CR 2
BEAVER CR 2

N BEAVER CR 2
M BEAVER CR 2
S BEAVER CR 2

LITTLE TWIN CR 2
BIG TWIN CR 2
BOULDER CR 2
JIM CR 2
GYPSUM CR 2

GREEN RIVER DRAINAGE

ROCK CR 2
LIME CR 2
KLONDIKE CR 2
TOSI CR 2

TEPEE CR 2

WAGON CR 2
ROARING FK 2

GREEN R LKS 1

LITTLE BIG HORN RIVER DRAINAGE

LITTLE BIG HORN R 2

TWIN CR 2

W FK LITTLE BIG HORN R 2

DRY FK LITTLE BIG HORN R 2

WAGONBOX CR 2

W PASS CR 2

E PASS CR 2

PUMPKIN CR 2

MANN CR 2

LICK CR 2

LAKE CR 2

N FK W PASS CR 2

LODGEGRASS CR 2

LITTLE MISSOURI RIVER DRAINAGE

LITTLE MISSOURI R (BL GOVT
CANYON CR) 2 WW
LITTLE MISSOURI R (AB GOVT
CANYON CR) 4

THOMPSON CR 4
HOLBEN CR 4
GOVERNMENT CANYON CR 4
N FK LITTLE MISSOURI R 2 WW

BATTLE CR 4
CEDAR CR 4
DRISCOLL CR 4

MITTEN PRONG 4

GAMMON PRONG 4
SWITZER DR 4

TIE CR 4
ELKHORN CR 4
TL CR 4
POISON CR 4
PRAIRIE CR 4

CORRAL CR 4

ALKALI DR 4
DEADMAN CR 4

FLAG BUTTE CR 4
GOOD LAD CR 4

GARLAND DR 4

LITTLE POWDER RIVER DRAINAGE

LITTLE POWDER R 2 WW

TRAIL CR 4
DRY CR 4
EIGHTYFIVE CR 4
OLMSTEAD CR 4

DUCK CR 4
ELK CR 4
WHITETAIL CR 4
ZV CR 4
HORSE CR 4

SPRING CR 4
COTTONWOOD CR 4

COW CR 4
CORRAL CR 4
GARNER LAKE 4
RAWHIDE CR 3

DRY FK L POWDER R 3
PRAIRIE CR 4

SPRING CR 4
N FK OLMSTEAD CR 4

WILDCAT CR 4
SPRING CR 4
SQUAW CR 4

HAY CR 4

MITCHELL CR 4

L RAWHIDE CR 4

RED FOX DR 4

MOYER SPRING CR 2
EAST FK 4

S SQUAW CR 4

L MITCHELL DR 4

DEER CR 4

DRAW NO 3 4
DRAW NO 6 4

HOPE CR 4

LITTLE SNAKE RIVER DRAINAGE

LITTLE SNAKE R 2

N FK LITTLE SNAKE R 2

W BRANCH, N FK LITTLE
SNAKE R 2

ROARING FK 2
BATTLE CR 2

W FK BATTLE CR 2

HAGGERTY CR 2

WILLOW CR 2
PUTT CR 4
SAVERY CR 2

NEGRO CREEK 4
LITTLE SANDSTONE CR 2
BIG SANDSTONE CR 2
LITTLE SAVERY CR 2
N FK SAVERY CR 2
E FK SAVERY CR 2

DUTCH JOE CR 3
LEDFORD SLOUGH 3
MUDDY CR (MOUTH TO
S29, T17N, R89W) 3
MUDDY CR (REMAINDER) 2

FIRST MESA DITCH 4
DEEP CR 3
CHEROKEE CR 3
BLUE GAP DR 4
WILD COW CR 4
COW CR 3

DRY COW CR 4
DEEP GULCH CR 3

BARREL SPRINGS DR 4

WINDMILL DR 4
N BARREL SPRINGS DR 4

SAND CR 4

MCKINNEY CR 2

RED WASH 3

N PRONG RED WASH 4

NIOBRARA RIVER DRAINAGE

NIOBRARA R (BL DUCK CR) 2
NIOBRARA R (BETWEEN DUCK &
QUINN CRS) 2 WW
NIOBRARA R (AB QUINN CR) 4

VAN TASSELL CR 2 WW
DUCK CR 4

SPRINGS CR 4
QUINN CR 4

BERGREEN CR 4

NORTH PLATTE RIVER DRAINAGE

N PLATTE R (NATRONA COUNTY ROAD 309
BRIDGE (GOOSE EGG BRIDGE) TO ALCOVA DAM) 1
N PLATTE R (SAGE CR TO COLO LINE) 1
N PLATTE R (PATHFINDER RES TO KORTES
DAM) 1
N PLATTE R (REMAINDER) 2

SHEEP CR 4
INTERSTATE CANAL 4
FORT LARAMIE CANAL 4
KATZER DRAIN 3
HORSE CR 2

ROBB DRAW 4
GOSHEN HOLE RES 2 WW
BUMP-SULLIVAN RES 2 WW

CORN CR 4

JOSH CR 4

LONE TREE CR 4

SINNARD RES 2 WW

HAWK SPRINGS RES 2 WW

DRY CR 3

BEAR CR 2

FOX CR 2
LITTLE BEAR CR 2
N BEAR CR 2
S BEAR CR 2

FOUR MILE DR 4
BUSHNELL CR 2
LITTLE HORSE CR 2
SPRINGER CR 4
CAREY CR 4
S FK HORSE CR 2
MILL CR 4
SPRING CR 4

RAWHIDE CR 2

SAGE CR 2
MUSKRAT CR 2
RED CLOUD SLOUGH 4

CHERRY CR 2

CHERRY CR CANAL 4
ROCK RANCH CANAL 4

BOXELDER CR 3

GLOMILL RES 4

LARAMIE R 2

DEER CR 2

NORTH PLATTE RIVER DRAINAGE

GRAY ROCKS RES 2	COTTONWOOD FALLS SPRING 4 EAGLES NEST CANYON CR 4		
	CHUGWATER CR 2	NUMBER 2 CANAL 4 ANTELOPE CR 3 HUNTON CR 3	
		RICHEAU CR 2	S HUNTON CR 4
		N CHUGWATER CR 2 SPRING CR 2 S CHUGWATER CR 2 M CHUGWATER CR 2	MAXWELL CR 2
	ROCK CREEK (WHEATLAND) 3		STRONG CR 2
	N LARAMIE R 2	AYERS DR 3	
		FISH CR 2	S FK FISH CR 4
		OWEN CR 2 STURGEON CR 2 BEAR CR 2	
		COW CR 2 PINTO CR 2 COTTONWOOD CR 2 ANTELOPE CR 4 BAR M CR 2 KELLY CR 2	FRIEND CR 2
			MULLEN CR 2 MARKLE DITCH 4
	DRY LARAMIE R 2	SOLDIER CR 2	
		COLLINS CUTOFF CR 4 CAMP CR 4	
	SYBILLE CR 2	RESERVOIR #1 4 BRUSH CR 4 DEADHEAD CR 2 BLUEGRASS CR 2	
		MULE CR 2 S SYBILLE CR 2	HALLECK CR 4

NORTH PLATTE RIVER DRAINAGE

	MARBLE QUARRY CR 4 LUMAN CR 2 RABBIT CR 4 SLATE CR 4 DUCK CR 2	CANYON CR 4 M SYBILLE CR 2 N SYBILLE CR 2
	DODGE CR 2	CHERRY CR 2
WHEATLAND RES #2 2 WHEATLAND RES #3 2	LK IONE 3 LONG LK 3	
	DIAMOND LK 2 COOPER LK 4	GATES CR 4 WALLROCK 2
		COOPER CR 4 DUTTON CR 4
		SHEEP CR 4
	FOURMILE CR 2 JAMES LK 4	RAINEY LK 4 DUTTON CR RES 4 KING RES #1 4
	LITTLE LARAMIE R 2	BELLAMY IRRIGATION DITCH 4 SEVEN MILE CR (AB QUEALY DOME) 2 SEVEN MILE CR (BL QUEALY DOME) 4
		KNADLER LK 4 WEBB LK 4 MILL CR 2
		S FK MILL CR 2
		N FK LITTLE LARAMIE R 2
		NASH FK 2 LIBBY CR 2
		BROWNS CR 2
	N CANAL 4 LK HATTIE 2 SODA LKS 2 PIONEER CANAL 4	SAND CR 2 ALSOP DITCH 2

NORTH PLATTE RIVER DRAINAGE

SODERGREEN LK 2
LARAMIE SPRING CR 3
HARNEY CR 4

LK LEAZENBY 2

FIVEMILE CR 2
LONE TREE CR 4

WILLOW CR 4

SAND CR 2

ANTELOPE CR 4
SHELL CR 4

CALDWELL LK 3
LAKE OWEN 2
FOX CR 2
WOODS CR 2
PORTER CR 2
JELM CR 2
BEAR CR 2
SHELLROCK CR 2
EAGLE CR 2
BOSWELL CR 2
JOHNSON CR 2
UVA DITCH 4
NUMBER 2 CANAL 4

SAND DR 4
COTTONWOOD DR 4
COLD SPRING CR 4
HARTVILLE CANYON 4

BROOM CR 2

PATTEN CR 2

SPRING CR 4
COTTONWOOD CR 2

CROW CR 4

LITTLE COTTONWOOD CR 2
SAWMILL CANYON CR 4
BEAR CR 3

S FK BEAR CR 4
M FK BEAR CR (BL RR TRACKS) 2
M FK BEAR CR (REMAINDER) 4
N FK BEAR CR 4

HORSESHOE CR 2

SPRING CR 4
N HORSESHOE CR 4
SAND DR 3

GUERNSEY RES 2

NORTH PLATTE RIVER DRAINAGE

GLENDON RES 2

SAND DRAW 4

WHISKEY GULCH 4
BOXELDER CR 4
WILLOW CR 4
MUDDY CR 4

ELKHORN CR (AB 1-25) 2
ELKHORN CR (REMAINDER) 4

LOST CR 4
INDIAN CR 4
SHAWNEE CR 4

SPRING CR 4
SAND CR 4

SAND CR 4
LABONTE CR 2

WAGONHOUND CR 2

BEDTICK CR 4
LITTLE BEDTICK CR 4
ANTELOPE CR 4
FIVEMILE CR 4

LA PRELE CR 2
LA PRELE RES 2

PETTERMAN CR 4
ALKALI GULCH 4
SAGE CR 4

BOXELDER CR 2

ROARING FK HORSESHOE CR 2

SPANISH CR 4

N ELKHORN CR 4

W FK SHAWNEE CR 4

SMITH CR 4

TRAIL CR 4
W FK LABONTE CR 2
SAWMILL CR 4
REED CR 4

CORRAL CR 4

HARVE GULCH 4

RED CANYON CR 2
LITTLE LA PRELE CR 2
RABBIT CR 2

BENNETT DR 4
HORNBECK DR 4
POTTS DRAW 4

LITTLE BOXELDER CR 2

NORTH PLATTE RIVER DRAINAGE

	M FK BOXELDER CR 2 VIRDEN CR 2 E BOXELDER CR 2	
SAND CR 4 DRY CR 4		
DEER CR 2	M FK DRY, CR 4	
	LITTLE DEER CR 2 W FK DEER CR 2	
COLE CR 4	LONE TREE GULCH 4	
DRY CR 4 MUDDY CR 2	CLEAR FK MUDDY CR 4	GOOSE CR 4
	NEGRO CR 2 BEAVER CR 4	
DRY MUDDY CR 3 ELKHORN CR 2 SUICIDE SODA LAKE 4 SAND SPRING CR 4		
	MCKENZIE DR 4	
SANDY DR 4 WEBB DR 4 MCNALES CR 4 SQUAW CR 3 CLAUDE CR 2 ELKHORN CR 2 EIGHT MILE LK 4 MATHESON CR 4 OREGON TRAIL DRAIN 4 WOLF CR 4 NINE MILE LK 4 GARDEN CR 2		
CASPER CR 2	W FK GARDEN CR 2	
	SIXMILE DRAW 4 CASPER CANAL 4 S FK CASPER CR 4	
	N FK CASPER CR 3	CLARKS GULCH 4
	JOHNSON RES #2 4	HEMINGWAY DR 4

NORTH PLATTE RIVER DRAINAGE

COYOTE CR 4
M FK CASPER CR 3

PEAK GULCH 4
JACK ALLEN DR 4

RHOBAUGH DR 4

SIX MILE DR 4

POISON SPIDER CR
(LOWERMOST MILE) 2
POISON SPIDER CR (FROM
CLASS 2 SECTION UPSTREAM
FOR 5 MILES) 3
POISON SPIDER CR (REMAINDER) 4

IRON CR 4
MORTON CR 4
MEADOW CR 4
AUSTIN CR 4
SOAP CR 4

POISON SPRING CR 4

WILLOW CR 4

BATES CR 2

STINKING CR 4
RED CR 4
CORRAL CR 2

BATES CR RES 2
BOLTON CR 4
BEAR CR 3

S FK BEAR CR 4
E FK BEAR CR 4
W FK BEAR CR 4

LEDGE CR 4

GRAY REEF RES 2
ALCOVA RES 2

BEAR SPRING CR 4
EAGLE CR 4
SWEETWATER R (AB ALKALI CR) 1
SWEETWATER R (BL ALKALI CR) 2

DRY CR 2

ROBERTS DR 4
COTTONWOOD CR 4

PLAYA LK 4
SODA LKS 4
RUSH CR 4
PETE CR 2
CHERRY CR 2

NORTH PLATTE RIVER DRAINAGE

JACKSON LKS 4
BUCKLIN RES 2
MUDDY CR 2

SODA LK 4
WILLOW CR 2
COOPER CR 2
LANKIN CR 2
COTTONWOOD CR 2
SAGE HEN CR 2

CROOKS CR 2

BUFFALO CR 2
O'BRIAN CR 2
NANCY CR 2
HAYPRESS CR 2
LONG CR 2

WARM SPRINGS CR 2
ICE SLOUGH 3
KOEHLER DR 4
CARMODY LK 2
ROCK DR 4
ALKALI CR 3

SILVER CR 2
LEWISTON LKS 4
CHIMNEY CR 2
SPRING CR 2
WILLOW CR 2
MORMON CR 2
STRAWBERRY CR 2
HARRIS SLOUGH 2
LONG SLOUGH 4

LITTLE CAMP CR 4
CAMP CR 2

W SAGE HEN CR 2
DIAMOND SPRINGS DR 4

FOURTH CR 2
SHEEP CR 2

W FK LONG CR 4
E FK LONG CR 2

COYOTE GULCH 4
E ALKALI CR 3
W ALKALI CR 4

SULPHUR CR 2
PICKET CR 4
PICKET LK 2 WW

NORTH PLATTE RIVER DRAINAGE

	ROCK CR 2	LITTLE BEAVER CR 2	TABOR GULCH 4
		SLATE CR 2	
	WILLOW CR 2		
	OREGON SLOUGH 2		
	SLAUGHTERHOUSE GULCH 2		
	PINE CR 2		
	FISH CR 2		
	LANDER CR 2		
	E FK SWEETWATER R 2		
		GOLD CR 2	
	LITTLE SWEETWATER R 2		
	CLEAR CR 2		
	MILL CR 2		
	BLAIR CR 2		
	POOL CR 2		
	LARSON CR 2		
	SWEETWATER CR 2		
		BLUCHER CR 2	
PATHFINDER RES 2	HORSE CR 2		
		FISH CR 2	
	ARKANSAS CR 2		PINO DR 4
	CANYON CR 2		
		S FK CANYON CR 2	
	SAND CR 2		
	DEWEESE CR 2		
	SUNDAY MORNING CR 2		
	SAGE CR 2		
		DRY CR 2	
	LONG CR 2	S FK SAGE CR 2	
	LOST CR 2		
KORTES RES 2			
SEMINOE RES 2	MORGAN CR 2		
	SAYLOR CR 2		
	COAL CR 4		
		CORRAL CR 4	
	AUSTIN CR 2		
	MEDICINE BOW R 2		
		DRY CR 3	

NORTH PLATTE RIVER DRAINAGE

TRoublesome CR 2
DIFFICULT CR 2
PINE TREE GULCH 4
LITTLE MEDICINE BOW R 2

MUDDY CR 4

GREASEWOOD CR 4

BADGER LK 4
SHEEP CR 2

BIG CHARLEY LKS 4
SPRING CR 3
SLATE DR 4
SAND CR 4
SPRING CR 3
N FK LITTLE MEDICINE BOW R 2
ROCK CR 2
S FK LITTLE MEDICINE BOW R 2

HOUSE CR 4
FIRST RANCH CR 2
GRINNELL LK 4

BONE CR 4

MULE CR 2
COTTONWOOD CR 2
MANTZ CR 2
BOULDER CR 2

N PRONG S FK LITTLE
MEDICINE BOW R 2
S PRONG S FK LITTLE
MEDICINE BOW R 2

ALLEN LK 2

E ALLEN LK 2
COMO LK (S5, T22N, R78W) 4

COMO LK (S1, T22N, R80W) 2
ROCK CR 2

FIRST SAND CR 3

SPRING DR 4

AURORA LK 4
SODA LKS 4
SEVEN MILE CR 4
MEISER CR 4
COALBANK CR 3
PIERCE RES 2
BOSLER RES 4
THREE MILE CR 2

DRY CR 2

NORTH PLATTE RIVER DRAINAGE

	FOOTE CR 2 THIRD SAND CR 4 WAGONHOUND CR 2 BEAR CR 4 HALLECK CR 2 E FK MEDICINE BOW R 2 TURPIN CR 2 PINE DR 4 HANNA DR 4	FIELAND CR 4 WATKINS CR 2 DIXON CR 4
BIG DITCH 4	N DITCH 4 MIDDLE DITCH 4 SEEPAGE SPRINGS DR 4 PALM RANCH CO RES 4 COAL DITCH 4 SHANKS DR 4 ST MARYS DR 4 PIX DR 4 KELLY DR 4	PALMER DR 4 ARCH DR 4 BARREL SPRINGS DR 4 WILLOW SPRINGS DR 4
SUGAR CR 4	HOGBACK LK 4	
IRON SPRINGS DR 4	HUGUS DR 4	
PASS CR 2	RATTLESNAKE CR 2 HAT CR 2 RANKINE CR 2 LEE CR 2	SMITH DR 4
SAGE CR (AB SANDSTONE RD) 2 SAGE CR (REMAINDER) 4	LITTLE SAGE CR 4 MILLER CR 2 RASMUSSEN CR 2	
BLYDENBURG DR 4 JACK CR 2	WILLOW CR 2	

NORTH PLATTE RIVER DRAINAGE

LAKE CR 2

S FK LAKE CR 2
DRY CR 4

SARATOGA LK 2
SPRING CR 2

N SPRING CR 2
S SPRING CR 2

CENTENNIAL CR 2

CEDAR CR 2
ELK HOLLOW CR 2
COW CR 2

CALF CR 2

ENCAMPMENT R (IN NAT'L
FOREST) 1
ENCAMPMENT R (REMAINDER) 2

BADGER CR 4
CHEROKEE CR 2
W COTTONWOOD CR 2
E COTTONWOOD CR 2
N FK ENCAMPMENT R 2
MINER CR 2
SOLDIER CR 2
DRUNKARD CR 2
BILLIE CR 2
CASCADE CR 2
JONES CR 2
BOX CANYON CR 2
MILLER CR 2
BRADY CR 2
OLSON CR 2
HOG PARK CR 2
E FK ENCAMPMENT R 2

BEAVER CR 2

INDIAN CR 2

BRUSH CR 2

N BRUSH CR 2
S BRUSH CR 2

FRENCH CR 2

N FRENCH CR 2
S FRENCH CR 2

BIG CR 2

BEAR CR 2
SPRING CR 2
N FK BIG CR 2

NORTH PLATTE RIVER DRAINAGE

MULLEN CR 2

N MULLEN CR 2

SAVAGE RUN CR 2

DOUGLAS CR 2

PELTON CR 2

POWDER RIVER DRAINAGE

POWDER R 2 WW

DRY CR 4
EIGHTYFIVE CREEK 4
BITTER CR 4
CUTLER DRAW 4
FENCE CR 3
DEADHORSE CR 4
SA CR 4
LX CR 4
CLEAR CR 2

CABIN CR 4
SQUAW CR 4
BUFFALO CR 4
NUMBER 2 DR 4
WHITMEYER CR 4
THOMPSON CR 4
PINHEAD CR 4

DOUBLE CROSS DR 4
COAL CR 4
PINEY CR 2

ROCK CR 2

SAND CR 4
FRENCH CR 2
REDMAN DITCH 4
SPLASHER DITCH 4
BULL CR 4
FORT MCKINNEY DITCH 4
GROMMOND CR 2
N FK CLEAR CR 2
M FK CLEAR CR 2
SOURDOUGH CR 2
S FK CLEAR CR 2
DUCK CR 2

SPOTTED HORSE CR 4

LONE TREE CR 4

BOXELDER CR 4
LAKE DESMET 2

S PINEY CR 2

N PINEY CR 2

S FK ROCK CR 2
N FK ROCK CR 2

SHELL CR 4

KEARNY CR 2

SPRING CR 2

POWDER RIVER DRAINAGE

	E PRONG SPOTTED HORSE CR 4	SOUTHWEST DR 4	
4EY CR 4			
JOE CR 4			
WILD HORSE CR 4			
	N FK WILD HORSE CR 4		
	M FK WILD HORSE CR 4		
	BEKE BREDE DR 4		
	TWENTY MILE CR 4		
	S DRAW 4		
	N DRAW 4		
	KINGSBURY CR 4		
COTTONWOOD CR 4			
MIDDLEBERRY DR 4			
BULL CR 4			
CRAZY WOMAN CR (AB I-25) 2			
CRAZY WOMAN CR (REMAINDER) 2 WW			
	DRY CR 4		
	BUFFALO WALLOW 4		
	S FK CRAZY WOMAN CR 3		
		BEAVER CR 2	
		STEEL CR 2	
	N FK CRAZY WOMAN CR 2		
		BILLY CR 2	
			MUDDY CR 2
		KELLY CR 4	
		CARIBOU CR 2	
		POLE CR 2	
	M FK CRAZY WOMAN CR 2		
		POISON CR 2	
FORTIFICATION CR 4			
KINNEY DR 4			
TURNER DR 4			
COAL GULCH 4			
BARBER CR 4			
WILLIAMS DRAW 4			
SOMERVILLE DRAW 4			
FLYING E CR 4			
DRY CR 4			
DEAD HORSE CR 4			
	N FK DEAD HORSE CR 4		
INDIAN CR 4			
VAN HOUTEN DR 4			
BURGER DR 4			

POWDER RIVER DRAINAGE

BEAVER CR 4
FOUR MILE CR 4
PUMPKIN CR 4

CURTIS DR 4
WILLOW CR 4
NINE MILE CR 4
SOLDIER CR 4
DRY FK POWDER R 2 WW

FOURMILE CR 4

SALT CR 4

M FK POWDER R (AB
BUFFALO CR) 1
M FK POWDER R (REMAINDER) 2

N PRONG PUMPKIN CR 4
M PRONG PUMPKIN CR 4
S PRONG PUMPKIN CR 4

HOUSE CR 4
BULLWACKER CR 4
COTTONWOOD CR 4

N FK FOURMILE CR 4

MEADOW CR 3

DUGOUT CR 4
CASTLE CR 4

BURRIS DRAW 4
TEAPOT CR 4

SEVEN L CR 4
BOBCAT CR 4
BOTHWELL DRAW 4
E SPRING DR 4
N SPRING DR 4
INDIAN DR 4
SULFUR DR 4
COAL DR 4

RED FK POWDER R 2

COLLINS DR 4

ANDERSON DR 4
PAVEY DR 4
JONES DR 4

W FK CASTLE CR 4
S FK CASTLE CR 4

E TEAPOT CR 4
LITTLE TEAPOT CR 4

S FK RD FK POWDER R 2
BEARTRAP CR 2

POWDER RIVER DRAINAGE

	BEAVER CR 2	BLUE CR 2	
	BUFFALO CR 2	BAKER CR 2	
		N FK BUFFALO CR 2	
		M FK BUFFALO CR 2	
N FK POWDER R 2		S FK BUFFALO CR 2	
	DRY CR 4	CORPE DRAW 4	
	PASS CR 2		
	JOHNSON CR 2		
S FK POWDER R 4	WEBB CR 2		
	MURPHY CR 3		
	WILLOW CR 2	ALKALI CR 4	HACKETT CR 4
	INDIAN CR 4		
	ANDERSON DR 4		
	COTTONWOOD CR 4	N FK COTTONWOOD CR 4	
		S FK COTTONWOOD CR 4	
	CEDAR RIDGE GULCH 4		
	WALLACE CR 4	PHAYLES CR 4	
		ASPIRIN CR 4	
	DEAN SPRINGS DR 4		
	WALL CR 4	THOMAS CR 4	
	OKIE DR 4		
	TRAIL CANYON CR 4		

SNAKE RIVER DRAINAGE

SNAKE R (AB HWY 22) 1
SNAKE R (REMAINDER) 2

FALLS R 2

BECHLER R 1

OUZEL CR 1

BOUNDARY CR 1
GRASSY LK 2
BEULA LK 1
HERING LK 1

BOONE CR 2
CONAT CR 2
N FK TETON R 2
S FK BADGER CR 2
S LEIGH CR 2
TETON CR 2
DARBY CR 2
FOX CR 2
GAME CR 2
MOOSE CR 2
TRAIL CR 2
ELK CR 2
INDIAN CR 2

S FK INDIAN CR 2

TETON R 2

DRY CR 4

SPRING CR 2

KILN CR 2

PALISADES RES 2

PALISADES CR 2
SALT R 2

FLAT CR 2

EASTSIDE IRRIGATION CANAL 4

CEDAR CR 2
STRAWBERRY CR 2
WILLOW CR 2
CROW CR 2
SWIFT CR 2
DRY CR 2
COTTONWOOD CR 2
WILLOW CR 2
JACKNIFE CR 2
TINCUP CR 2
STUMP CR 2

GREYS R 2

SNAKE RIVER DRAINAGE

	LITTLE GREYS R 2	
	MURPHY CR 2	
	WHITE CR 2	
	DEADMAN CR 2	
	BEAR CR 2	
	SHEEP CR 2	
FALL CR 2		
	COBURN CR 2	
HOBACK R 2		
	WILLOW CR 2	
	GRANITE CR 1	
	SHOAL CR 2	
	CLIFF CR 2	
	DELL CR 2	
	JACK CR 2	
	FISH CR 2	
		N FK FISH CR 2
	MUDDY CR 2	
	KILGORE CR 2	
	GRIZZLY CR 2	
HORSE CR 2		
FLAT CR 2		
	CACHE CR 2	
	SHEEP CR 2	
MOSQUITO CR 2		
FISH CR (ENTIRE		
DRAINAGE) 1		
GROS VENTRE R 2		
SLIDE LK 2		
	CHRYSTAL CR 2	
	THE SIX LKS 2	
	SLATE CR 2	
	COTTONWOOD CR 2	
	FISH CR 2	
		N FK FISH CR 2
		BACON CR 2
	SEVEN LKS 2	
	CLEAR CR 2	
PHIELPS LK 1		
DITCH CR 2		
CASCADE CR 1		
JENNY LK 1		
LEIGH LK 1		
SPREAD CR 2		

SNAKE RIVER DRAINAGE

BUFFALO FK 2

LAVA CR 2
BLACKROCK CR 2
N BUFFALO FK 2

SODA CR 2

S BUFFALO FK 2

CUB CR 2

PACIFIC CR 2

EMMA MATILDA LK 2
TWO OCEAN LK 2
ENOS LK 2

JACKSON LK 1

PILGRIM CR 2
MORAN CANYON CR 1
ARIZONA CR 2
MOOSE CR 1
OWL CR 1

BERRY CR 1

LEWIS R 1
LEWIS LK 1
SHOSHONE LK 1
WOLVERINE CR 2

COULTER CR 2

HEART LK 1
POLECAT CR 2

TANAGER CR 4

SOUTH PLATTE RIVER DRAINAGE

LODGEPOLE CR (BL HWY 85) 3
LODGEPOLE CR (REMAINDER) 2

MUDDY CR 3

SPRING CR 3
N FK MUDDY CR 4

CHIVINGTON DR 4

SPRING CR 4
ANTELOPE DR 4

NINEMILE DR 4
S LODGEPOLE CR 2
N LODGEPOLE CR 2
M LODGEPOLE CR 2

CROW CR (AB SILVER CROWN) 2
CROW CR (FROM CHEYENNE RES
DIVERSION TO SILVER CROWN) 2 WW
CROW CR (FROM LOWER BOUNDARY OF
SUNSET PARK TO CHEYENNE DIVERSION) 3
CROW CR (FROM WEST BOUNDARY OF S16, T13N,
R63W TO LOWER BOUNDARY SUNSET PARK) 4
CROW CR (FROM WEST BOUNDARY OF S36, T13N,
R63W TO WEST BOUNDARY S16, T13N, R63W) 3
CROW CR (REMAINDER) 4

CLEAR CR 4
DIAMOND CR 4
DRY CR 4
ROUNDTOP LK 4
TREK DR 4
SPRING CR 4
N CROW CR 2

SPRING CR 4

UPPER N CROW RES 2
S CROW CR 2

S FK S CROW CR 2

M CROW CR 2
CRYSTAL LK RES 2
GRANITE SPRINGS RES 2

PORTER DR 4
LONE TREE CR 2

DUCK CR 2
GOOSE CR 2

DALE CR 2
FISH CR 2

TONGUE RIVER DRAINAGE

HANGING WOMAN CR 4

DEER CR 4
BADGER CR 4

PRAIRIE DOG CR 2

YOUNGS CR 3

TONGUE R (IN NAT'L FOREST) 1
TONGUE R (REMAINDER) 2

W FK HANGING WOMAN CR 4
M FK HANGING WOMAN CR 4

LITTLE BADGER CR 4

MEADE CR 2
COUTANT CR 4
DUTCH CR 4

ARKANSAS CR 4

L YOUNGS CR 3

ASH CR 4
BIG GOOSE CR 2

S DRY CR 4
SLATER CR 4
EARLY CR 4
SIX MILE CR 4
WOLF CR 2
COLUMBUS CR 2
SMITH CR 2
LITTLE TONGUE CR 2
AMSDEN CR 2
SHEEP CR 2

DOW PRONG 4
WILDCAT CR 4

WAGNER PRONG 4

SOLDIER CR 2
LITTLE GOOSE CR 2

BEAVER CR 4
RAPID CR 4
E GOOSE CR 2

W GOOSE CR 2
MAN GULCH 4

GILLESPIE DR 4

JACKSON CR 4
HANNA CR 4

BABIONE CR 2
EDELMAN CR 2
GROSS CR 2

ALLIANCE LATERAL 4

TONGUE RIVER DRAINAGE

S TONGUE R 1
N TONGUE R 1

FOOL CR 2

BULL CR 2
BIG WILLOW CR 2
LITTLE WILLOW CR 2

WIND RIVER DRAINAGE

WIND R (FROM INDIAN RES BOUNDARY
UPSTREAM TO BOYSEN DAM) 1
WIND R (REMAINDER) 2
BOYSEN RES 2

COTTONWOOD CR 4
MUDDY CR 2

BLUE DR 4
WYOMING CANAL 4
SHEEP CR 2

E FK SHEEP CR 2
ARAPAHOE RES 2

SHOTGUN CR 2
HOLLAND CR 2
BARGEE RES 2
BARGUIN RES 2

RESERVOIR CR 3
BADWATER CR 2

HOODOO CR 2
DRY CR 4

E FK DRY CR 4
W FK DRY CR 2

SCHOENING CR 3
DOLUS CR 3
BRIDGER CR 2

COTTONWOOD CR 2
LYSITE CR 2

ALKALI CR 4

RED CR 3
E-K CR 3

SAND CR 4

S FK SAND CR 4

SNYDER CR 3
SIOUX CR 2
CLEAR CR 2
DRY FK BADWATER CR 4
S FK BADWATER CR 4
DRY GULCH 4

POISON CR 4

DEER CR 2

CANYON CR 4

E CANYON CR 4
W CANYON CR 4

FIVEMILE CR 2

FRENCHIE DR 4

WIND RIVER DRAINAGE

	OCEAN LK 2 WW	PAVILLION - OCEAN LK NO 6 DRAIN 3	
	WATER ROCKS DR 4 HURLEY DR 4 MAVERICK SPRINGS DR 4		
	TEAPOT WASH 4 MIDVALE CANAL 4	COAL DR 4	
PILOT CANAL 4	PILOT BUTTE RES 2		
MUSKRAT CR 4	DRY CHEYENNE CR 4	FULLER RES 4	
	CONANT CR 4	OIL SPRINGS CR 4 LOGAN CR 4 RONGIS RES 4 HORSESHOE CR 4	
	FISH DR 4 MAHONEY DR 4 FRASER DR 4 FRASER RES 4		SIGNOR DR 4
	MURPHY DR 4 COYOTE CR 4	WILLOW SPRINGS DR 4	
LECLAIR CANAL 4 KIRBY DR 4 SPENCER DR 4 MADDEN DR 4 LITTLE WIND R 2	BEAVER CR (FROM RESERVATION BOUNDARY UPSTREAM TO LITTLE SAND DRAW) 3 BEAVER CR (REMAINDER) 2	PREACHER DR 4 NINEMILE DR 4 BIG SAND DR 4 LITTLE SAND DR 4 DRY DR 4 WILLIAMS DR 4 HALL CR 4	

WIND RIVER DRAINAGE

POPO AGIE R 2

LITTLE BEAVER CR 2

CHITTIM GULCH 4
LITTLE POPO AGIE R 2

GOVERNMENT DR 4
WILLOW CR 2
TWIN CR 2
DEEP CR 2
CANYON CR 2
CHRISTINA LK 2

N POPO AGIE R 2

SHOSHONE LK 2

M POPO AGIE R 2

BALDWIN CR 2
SQUAW CR 2
SAWMILL CR 2
ROARING FK 2
SMITH CR 2

MILL CR 2
RAY LK 2
BIGHORN DR 4
SAGE CR 2

NORKOK CR 2
PEVAH CR 2
S FK SAGE CR 2
N FK SAGE CR 2

S FK LITTLE WIND R 2

TROUT CR 2

WASHAKIE RES 2

MOCCASIN LK 2

GRAVE LK 2
BAPTISTE LK 2
N FK LITTLE WIND R 2
RAFT LK 2

MEXICAN DR 4
DRY CR 2

LITTLE DRY CR 2
MISSION LK 4

WINCHESTER DR 4
BULL LK CR 2
BULL LK 2

N FK BULL LK CR 2
BIG MILKY LK 2

ALPINE LK 2

WIND RIVER DRAINAGE

EGA DR 4
LITTLE SAND DR 4
WILLOW CR 2

N FK WILLOW CR 2
S FK WILLOW CR 2
BOB CR 2

CROW CR 2
DRY CR 2
NATIVE LK 2
SAND DR 4
DINWOODY CR 2
DINWOODY LK 2
KLONDIKE LK 2
RED CR 2
WIGGINS FK 2

SAND COULEE 4
E FK WIGGINS FK 2

BEAR CR 2

TORREY CR 2
TORREY LK 2

CALDWELL CR 2
FRONTIER CR 2

E TORREY CR 2

ROSS LK 2
JAKEYS FK 2
SIMPSON LK 2
BOW LK 2
HORSE CR 2

TAPPAN CR 2
LITTLE HORSE CR 2

WARM SPRINGS CR 2

S FK WARM SPRINGS CR 2

DUNOIR CR 2

HORSETHIEF GULCH 4

BROOKS LK 2

YELLOWSTONE RIVER DRAINAGE

MADISON R 1

GIBBON R 1
GREBE LK 1
FIREHOLE R 1

NEZ PERCE CR 1
SENTINEL CR 1
LITTLE FIREHOLE R 1

COUGAR CR 1

DUCK CR 1

GNEISS CR 1
GRAYLING CR 1
GALLATIN R 1
FAN CR 1
GARDNER R 1

LAVA CR 1
WINTER CR 1
INDIAN CR 1
PANTHER CR 1
FAWN CR 1

YELLOWSTONE R 1

LAMAR R 1

BUFFALO CR 1

SODA BUTTE CR 1

SLOUGH CR 1

PEBBLE CR 1

CACHE CR 1
CALFEE CR 1
MILLER CR 1
MIST CR 1

COLD CR 1

TOWER CR 1
DEEP CR 1
BROAD CR 1

SHALLOW CR 1

WHITE LK 1
ALUM CR 1
SOUR CR 1

YELLOWSTONE LK 1

RAVEN CR 1
BEAR CR 1
TURBID LK 1
CLEAR CR 1
COLUMBINE CR 1
ROCKY CR 1

YELLOWSTONE RIVER DRAINAGE

RIDDLE LK 1		
DELUSION LK 1		
CHIPMUNK CR 1		
MOUNTAIN CR 1		
CLIFF CR 1		
THOROFARE CR 1	OPEN CR 1	
	PASS CR 1	
ATLANTIC CR 1		
CLARKS FK YELLOWSTONE R (AB USFS BOUNDARY) 1		
CLARKS FK YELLOWSTONE R (BL USFS BOUNDARY) 2		
COTTONWOOD CR 4		
	HUNTER CR 4	
BIG SAND COULEE 4		COTTONWOOD DR 4
	BADGER DITCH 4	
	W FK BIG SAND COULEE 4	
IMPOUNDMENTS ON BIG SAND COULEE 2		
SILVERTIP CR 4		
LINE CR 2		
BENNETT CR 2		
	LITTLE ROCK CR 2	
LITTLE SAND COULEE 4		
PAT O'HARA CR 2		
PAINT CR 2		
HOGAN RES 2		
DEAD INDIAN CR 2		
SUNLIGHT CR 2		
	TRAIL CR 2	
	GRAVELBAR CR 2	
SAWTOOTH LK 2		
CRANDALL CR 2		
	HOODOO CR 2	
		TEMPLE CR 2
	N FK CRANDALL CR 2	
	CLOSED CR 2	
	TIMBER CR 2	
	PAPOOSE CR 2	
PILOT CR 2		
ROCK CR 2		
BEARTOOTH CR 2		

YELLOWSTONE RIVER DRAINAGE

LAKE CR 2
CRAZY CR 2
GILBERT CR 2
GLACIER LK 2
LONESOME LK 2
GRANITE LK 2
BIG MOOSE LK 2

Appendix B
Water Quality Criteria⁽¹⁾

PRIORITY POLLUTANTS

<u>Pollutant</u>	<u>Aquatic Life Acute Value Micrograms/l</u>	<u>Aquatic Life Chronic Value Micrograms/l</u>	<u>Human Health Value⁽²⁾ Micrograms/l</u>
Acenaphthene			20
Acrolein			320
Acrylonitrile ⁽³⁾			0.059
Benzene ⁽³⁾			1.2
Benzidine ⁽³⁾			0.00012
Carbon tetrachloride ⁽³⁾ (Tetrachloromethane)			0.25
Chlorobenzene (Monochlorobenzene)			680
Hexachlorobenzene ⁽³⁾			0.00072
1,2-Dichloroethane ⁽³⁾			0.38
1,1,1-Trichloroethane			200
Hexachloroethane ⁽³⁾			1.9
1,1,2-Trichloroethane ⁽³⁾			0.61
1,1,2,2,-Tetrachloroethane ⁽³⁾			0.17
Bis(2-chloroethyl) ether ⁽³⁾			0.031
2,4,6-Trichlorophenol ⁽³⁾			2.1
p-Chloro-m-cresol (4-Chloro-3-methylphenol)			3000
Chloroform (HM) ⁽³⁾ (Trichloromethane)			5.7
2-Chlorophenol			120
1,2-dichlorobenzene			2700
1,3-Dichlorobenzene			400
1,4-Dichlorobenzene			75
3,3-Dichlorobenzidine ⁽³⁾			0.039
1,1-Dichloroethylene ⁽³⁾			0.057
1,2-trans-Dichloroethylene			700
2,4-Dichlorophenol			93

<u>Pollutant</u>	<u>Aquatic Life Acute Value Micrograms/l</u>	<u>Aquatic Life Chronic Value Micrograms/l</u>	<u>Human Health Value⁽²⁾ Micrograms/l</u>
1,3-Dichloropropylene (1,3-Dichloropropene) (cis and trans isomers)			10
2,4-Dimethylphenol			400
2,4-Dinitrotoluene ⁽³⁾			0.11
1,2-Diphenylhydrazine ⁽³⁾			0.040
Ethylbenzene			3100
Fluoranthene			42
Bis(2-chloroisopropyl) ether			1400
Methylene chloride (HM) ⁽³⁾ (Dichloromethane)			4.7
Methyl chloride (HM) ⁽⁶⁾ (Chloromethane)			5.7
Methyl bromide (HM) (Bromomethane)			48
Bromoform (HM) ⁽⁶⁾ (Tribromomethane)			5.7
Dichlorobromomethane (HM) ⁽⁶⁾			5.7
Chlorodibromomethane (HM) ⁽⁶⁾			5.7
Hexachlorobutadiene ⁽³⁾			0.44
Hexachlorocyclopentadiene			240
Isophorone ⁽³⁾			8.4
Nitrobenzene			17
2,4-Dinitrophenol			70
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)			13.4
N-Nitrosodimethylamine ⁽³⁾			0.00069
N-Nitrosodiphenylamine ⁽³⁾			5.0
N-Nitrosodi-n-propylamine ⁽³⁾			0.005
Pentachlorophenol	20 ⁽⁵⁾	13 ⁽⁵⁾	1000
Phenol			21000
Bis(2-ethylhexyl)phthalate ⁽³⁾			1.8
Buryl benzyl phthalate			3000
Di-n-butyl phthlate			2700
Diethyl phthalate			23000
Dimethyl phthalate			313000

<u>Pollutant</u>	<u>Aquatic Life Acute Value Micrograms/l</u>	<u>Aquatic Life Chronic Value Micrograms/l</u>	<u>Human Health Value⁽²⁾ Micrograms/l</u>
Benzo(a)anthracene (PAH) ⁽³⁾ (1,2-Benzanthracene)			0.0028
Benzo(a)pyrene (PAH)(3) (3, 4-Benzopyrene)			0.0028
Benzo(b)fluoranthene (PAH)(3) (3,4-Benzofluoranthene)			0.0028
Benzo(k)fluoranthene (PAH) ⁽³⁾ 11,12-Benzofluoranthene)			0.0028
Chrysene (PAH) ⁽³⁾			0.0028
Acenaphthylene (PAH) ⁽⁶⁾			0.0028
Anthracene (PAH) ⁽⁶⁾			0.0028
Benzo(g,h,i)perylene (PAH) ⁽⁶⁾ 1,12-Benzoperylene)			0.0028
Fluorene (PAH) ⁽⁶⁾			0.0028
Phenanthrene (PAH) ⁽⁶⁾			0.0028
Dibenzo(a,h)anthracene (PAH) ⁽³⁾ 1,2,5,6-Dibenzanthracene)			0.0028
Indeno(1,2,3-cd)pyrene (PAH) ⁽³⁾			0.0028
Pyrene (PAH) ⁽⁶⁾			0.0028
Tetrachloroethylene ⁽³⁾			0.8
Toluene			6800
Trichloroethylene ⁽³⁾			2.7
Vinyl chloride ⁽³⁾ (Chloroethylene)			2
Aldrin ⁽³⁾	1.5		0.00013
Dieldrin ⁽³⁾	1.25	0.0019	0.00014
Chlordane ⁽³⁾	1.2	0.0043	0.00058
4,4'-DDT ⁽³⁾	0.55	0.001	0.00059
4,4'-DDE ⁽³⁾			0.00059
4,4'-DDD ⁽³⁾			0.00083
alpha-Endosulfan	0.11	0.056	0.93
beta-Endosulfan	0.11	0.056	0.93
Endosulfan sulfate			0.93
Endrin	0.09	0.0023	0.2
Endrin aldehyde			0.2
Heptachlor ⁽³⁾	0.26	0.0038	0.00021
Heptachlor epoxide ⁽³⁾	0.26	0.0038	0.0001

<u>Pollutant</u>	<u>Aquatic Life Acute Value Micrograms/l</u>	<u>Aquatic Life Chronic Value Micrograms/l</u>	<u>Human Health Value⁽²⁾ Micrograms/l</u>
alpha-BHC ⁽³⁾ (Hexachlorocyclohexane-alpha)			0.0039
beta-BHC ⁽³⁾ (Hexachlorocyclohexane-beta)			0.014
gamma-BHC (Lindane) ⁽³⁾ (Hexachlorocyclohexane- gamma)	1.0	0.08	0.019
delta-BHC ⁽³⁾ (Hexachlorocyclohexane-delta)			
PCB-1242 (Arochlor 1242) ⁽³⁾		0.014	0.000044
PBC-1254 (Arochlor 1254) ⁽³⁾		0.014	0.000044
PBC-1221 (Arochlor 1221) ⁽³⁾		0.014	0.000044
PBC-1232 (Arochlor 1232) ⁽³⁾		0.014	0.000044
PBC-1248 (Arochlor 1248) ⁽³⁾		0.014	0.000044
PBC-1260 (Arochlor 1260) ⁽³⁾		0.014	0.000044
PBC-1016 (Arochlor 1016) ⁽³⁾		0.014	0.000044
Toxaphene ⁽³⁾	0.73	0.0002	0.00073
Antimony			14
Arsenic ⁽³⁾	360 ⁽¹²⁾	190 ⁽¹²⁾	7
Asbestos ⁽³⁾			30000 fibers/l
Beryllium ⁽³⁾			0.0077
Cadmium	3.9 ⁽⁴⁾	1.1 ⁽⁴⁾	10
Chromium (III)	1700 ⁽⁴⁾	210 ⁽⁴⁾	50
Chromium (VI)	16	11	50
Copper	18 ⁽⁴⁾	12 ⁽⁴⁾	1000
Cyanide (total)	22	5.2	200
Lead	82 ⁽⁴⁾	3.2 ⁽⁴⁾	50
Mercury	2.4	0.012	0.144
Nickel	1400 ⁽⁴⁾	160 ⁽⁴⁾	610
Selenium	20	5	10
Silver	4.1 ⁽⁴⁾		50
Thallium			13
Zinc	120 ⁽⁴⁾	110 ⁽⁴⁾	5000
Dioxin (2,3,7,8-TCDD) ⁽³⁾			0.000000013

NON-PRIORITY POLLUTANTS

<u>Pollutant</u>	<u>Aquatic Life Acute Value Micrograms/l</u>	<u>Aquatic Life Chronic Value Micrograms/l</u>	<u>Human Health Value⁽²⁾ Micrograms/l</u>
Aluminum (pH 6.5-9.0)	750	87	
Ammonia	See Appendix C		
Barium			2000 ⁽⁹⁾
Bis(chloromethyl) Ether ⁽³⁾			0.000159
Chloride	860000	230000	
Chlorine (total recoverable)	19	11	
Chlorpyrifos	0.083	0.041	
Demeton		0.1	
Dichlorodifluoromethane (HM) ⁽³⁾			5.67
2,4-dichlorophenoxy acetic acid			100
Dissolved Gases		100% Sat.	
Dissolved Oxygen		See Appendix D	
Fecal Coliform		See Section 27	
Guthion		0.01	
Iron		1000 ⁽¹²⁾	300 ⁽¹¹⁾
Malathion		0.1	
Manganese	3110 ⁽⁴⁾⁽¹²⁾⁽¹³⁾	1462 ⁽⁴⁾⁽¹²⁾	50 ⁽¹¹⁾
Methoxychlor		0.03	100
Mirex		0.001	
Nitrates (as N)			10000
N-nitrosopyrrolidene ⁽³⁾			0.016
Parathion	0.065	0.013	
pH		6.5-9.0	
Sulfide (S ²⁻ , HS ⁻)		2	
1,2,4,5-tetrachlorobenzene			38
Trichlorfluoromethane			5.67
2,4,5-trichlorophenol			1.0
2-(2,4,5-trichlorophenoxy) propionic acid			10

⁽¹⁾ Except for the aquatic life values for metals and where otherwise indicated, the values given in this Appendix refer to the total (dissolved plus suspended) amount of each substance. For the aquatic

life values for metals, the values refer to the acid soluble portion which is derived as the fraction that passes through a .45 µm membrane filter after the sample is acidified to pH 1.5-2.0 with nitric acid.

- (2) Based on two routes of exposure - Ingestion of contaminated aquatic organisms and drinking water.
- (3) Substance classified as a carcinogen with the value based on an incremental risk of one additional instance of cancer in one million persons.
- (4) Hardness dependent criteria. Value given is an example only and is based on a CaCO₃ hardness of 100 mg/l. Criteria for each case must be calculated using the formula in Appendix F.
- (5) pH dependent criteria. Value given is an example only and is based on a pH of 7.8. Criteria for each case must be calculated using the formula in Appendix G.
- (6) Chemicals which are not individually classified as carcinogens but which are contained within a class of chemicals with carcinogenicity as the basis for the criteria derivation for that class of chemicals; an individual carcinogenicity assessment for these chemicals is pending.
- (7) Value is based on organoleptic (taste and odor) effects and is more stringent than if based solely on toxic or carcinogenic effects.
- (8) EPA Section 304(a) human health criteria recommendation assuming consumption of contaminated aquatic organisms at a rate of 6.5 grams per day.
- (9) The criterion is based on an EPA drinking water standard (Maximum Contaminant Level or MCL).
- (10) The chronic aquatic life value for mercury (0.012) represents the Total Recoverable amount. This value cannot be converted to dissolved.
- (11) The iron and manganese criteria are based on Safe Drinking Water Act secondary standards and are intended to prevent undesirable aesthetic effects. These values represent the dissolved amount of each substance rather than the total amount.
- (12) Value is based on the dissolved amount which is the amount that will pass through a 0.45 µm membrane filter prior to acidification to pH 1.5-2.0 with nitric acid.
- (13) Aquatic life values for manganese apply only on Class 2 waters where the numeric human health criterion does not apply. These waters are listed in Appendix B - Site Specific Criteria.

SITE-SPECIFIC CRITERIA

The criteria in this section is applicable only to the waters and/or locations specified and replaces similar criteria expressed elsewhere in Chapter 1.

Belle Fourche Drainage

The numeric human health criteria for iron and manganese shall not apply to Class 2 waters in the Belle Fourche River Drainage above the confluence of Donkey Creek and the main stem of the Belle Fourche River (including Donkey Creek);

The numeric human health criteria for iron and manganese shall not apply to main stem of the Belle Fourche River below the confluence of Donkey Creek.

Cheyenne River Drainage

The numeric human health criteria for iron and manganese shall not apply to Antelope Creek and all of its Class 2 tributaries;

The numeric human health criteria for iron and manganese shall not apply to Little Thunder Creek and all of its Class 2 tributaries below the confluence of North Prong.

Little Powder River Drainage

The numeric human health criteria for iron and manganese shall not apply to Class 2 waters in the Little Powder River Drainage.

Powder River Drainage

The numeric human health criteria for iron and manganese shall not apply to Class 2 waters in the Powder River Drainage except on the following waters:

The main stem of Clear Creek and its Class 2 tributaries upstream of Clearmont, Wyoming;

The main stem of Crazy Woman Creek and its Class 2 tributaries;

The North Fork of the Powder River and all its Class 2 tributaries; and

The Middle Fork of the Powder River and all its Class 2 tributaries.

Appendix C
Ammonia Toxicity Criteria*

Aquatic Life Acute Values
Salmonids or Other Sensitive Coldwater Species Present

pH	0°C	5°C	10°C	15°C	20°C	25°C	30°C
Un-ionized ammonia (mg/liter NH ₃)							
6.50	0.0091	0.0129	0.0182	0.026	0.036	0.036	0.036
6.75	0.0149	0.021	0.030	0.042	0.059	0.059	0.059
7.00	0.023	0.033	0.046	0.066	0.093	0.093	0.093
7.25	0.034	0.048	0.068	0.095	0.135	0.135	0.135
7.50	0.045	0.064	0.091	0.128	0.181	0.181	0.181
7.75	0.056	0.080	0.113	0.159	0.22	0.22	0.22
8.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.25	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.50	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.75	0.065	0.092	0.130	0.184	0.26	0.26	0.26
9.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26

Aquatic Life Acute Values
Salmonids or Other Sensitive Coldwater Species Absent

pH	0°C	5°C	10°C	15°C	20°C	25°C	30°C
Un-ionized ammonia (mg/liter NH ₃)							
6.50	0.0091	0.0129	0.0182	0.026	0.036	0.051	0.051
6.75	0.0149	0.021	0.030	0.042	0.059	0.084	0.084
7.00	0.023	0.033	0.046	0.066	0.093	0.131	0.131
7.25	0.034	0.048	0.068	0.095	0.135	0.190	0.190
7.50	0.045	0.064	0.091	0.128	0.181	0.26	0.26
7.75	0.056	0.080	0.113	0.159	0.22	0.32	0.32
8.00	0.065	0.092	0.130	0.184	0.26	0.37	0.37
8.25	0.065	0.092	0.130	0.184	0.26	0.37	0.37
8.50	0.065	0.092	0.130	0.184	0.26	0.37	0.37
8.75	0.065	0.092	0.130	0.184	0.26	0.37	0.37
9.00	0.065	0.092	0.130	0.184	0.26	0.37	0.37

*These Limitations Apply To Class 1, 2, and 3 Waters Only.

APPENDIX C (continued)

Aquatic Life Chronic Values Salmonids or Other Sensitive Coldwater Species Present

pH	0°C	5°C	10°C	15°C	20°C	25°C	30°C
Un-ionized ammonia (mg/liter NH ₃)							
6.50	0.0007	0.0009	0.0013	0.0019	0.0019	0.0019	0.0019
6.75	0.0012	0.0017	0.0023	0.0033	0.0033	0.0033	0.0033
7.00	0.0021	0.0029	0.0042	0.0059	0.0059	0.0059	0.0059
7.25	0.0037	0.0052	0.0074	0.0105	0.0105	0.0105	0.0105
7.50	0.0066	0.0093	0.0132	0.0186	0.0186	0.0186	0.0186
7.75	0.0109	0.0153	0.022	0.031	0.031	0.031	0.031
8.00	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.25	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.50	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.75	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
9.00	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035

Aquatic Life Chronic Values Salmonids or Other Sensitive Coldwater Species Absent

pH	0°C	5°C	10°C	15°C	20°C	25°C	30°C
Un-ionized ammonia (mg/liter NH ₃)							
6.50	0.0007	0.0009	0.0013	0.0019	0.0026	0.0026	0.0026
6.75	0.0012	0.0017	0.0023	0.0033	0.0047	0.0047	0.0047
7.00	0.021	0.0029	0.0042	0.0059	0.0083	0.0083	0.0083
7.25	0.037	0.0052	0.0074	0.0105	0.0148	0.0148	0.0148
7.50	0.066	0.0093	0.0132	0.0186	0.0026	0.026	0.026
7.75	0.0109	0.0153	0.022	0.031	0.043	0.043	0.043
8.00	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
8.25	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
8.50	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
8.75	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050
9.00	0.0126	0.0177	0.025	0.035	0.050	0.050	0.050

*These Limitations Apply To Class 1, 2, and 3 Waters Only.

Appendix D
Minimum Dissolved Oxygen Criteria* (mg/l)

	<u>Coldwater Criteria</u>		<u>Class 3 and Warmwater Criteria</u>	
	Early Life Stages ^{(1),(2)}	Other Life Stages	Early Life Stages ⁽²⁾	Other Life Stages
30 Day Mean	NA ⁽³⁾	6.5	NA	5.5
7 Day Mean	9.5 (6.5)	NA ⁽³⁾	6.0	NA ⁽³⁾
7 Day Mean Minimum ⁽⁴⁾	NA ⁽³⁾	5.0	NA ⁽³⁾	4.0
1 Day Minimum ⁽⁴⁾	8.0 (5.0)	4.0	5.0	3.0

- (1) These are water column concentrations recommended to achieve the required intergravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column, the figures in parentheses apply.
- (2) Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.
- (3) NA (not applicable).
- (4) All minima should be considered as instantaneous concentrations to be achieved at all times.

*These limitations apply to Class 1, 2, and 3 waters only and in no case shall be interpreted to require dissolved oxygen concentrations greater than 100 percent saturation at ambient temperature and elevation.

Appendix E
References for Use in Making Bioassays of Surface Waters

- U.S. Environmental Protection Agency: Quality Criteria for Water. EPA-440/5-86/001. U.S. EPA, 1986.
- U.S. Environmental Protection Agency: Ambient Water Quality Criteria Documents, 1980, and subsequent revisions. U.S. EPA, 1980.
- U.S. Environmental Protection Agency: Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses. U.S. EPA, 1985.
- U.S. Environmental Protection Agency: Technical Support Manual: Waterbody Surveys and Assessments for Conducting Use Attainability Analyses. U.S. EPA, 1983.
- U.S. Environmental Protection Agency: Technical Guidance Manual for Performing Waste Load Allocation, Book VI, Chapter 1: Stream Design Flow for Steady-State Modeling. U.S. EPA, 1986.
- U.S. Environmental Protection Agency: Technical Support Document for Water Quality Based Toxics Control. U.S. EPA, 1985.
- U.S. Environmental Protection Agency: Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms. EPA-600/4-85/013. U.S. EPA, 1985.
- U.S. Environmental Protection Agency: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Second Edition. EPA-600/4-89/001. U.S. EPA, 1989.

Appendix F
Equations For Parameters With Hardness⁽¹⁾
Dependence

Parameter	4-Day Average Concentration (µg/l)	1-Hour Average Concentration (µg/l)
Cadmium	$e^{(0.7852 [\ln(\text{hardness})]-3.490)}$	$e^{(1.128 [\ln(\text{hardness})]-3.828)}$
Chromium		
(Trivalent)	$e^{(0.8190 [\ln(\text{hardness})]-1.561)}$	$e^{(0.8190 [\ln(\text{hardness})]-3.688)}$
Copper	$e^{(0.8545 [\ln(\text{hardness})]-1.465)}$	$e^{(0.9422 [\ln(\text{hardness})]-1.464)}$
Lead	$e^{(1.273 [\ln(\text{hardness})]-4.705)}$	$e^{(1.273 [\ln(\text{hardness})]-1.460)}$
Nickel	$e^{(0.8460 [\ln(\text{hardness})]-1.1645)}$	$e^{(0.8460 [\ln(\text{hardness})]-3.3612)}$
Silver	N/A	$e^{(1.72 [\ln(\text{hardness})]-6.52)}$
Zinc	$e^{(0.8473 [\ln(\text{hardness})]-0.7614)}$	$e^{(0.8473 [\ln(\text{hardness})]-0.8604)}$
Manganese ⁽²⁾	$e^{(0.5434[\ln(\text{hardness})]+4.7850)}$	$e^{(0.7693[\ln(\text{hardness})]+4.4995)}$

Footnote:

⁽¹⁾ Hardness as mg/l CaCO₃

⁽²⁾ Hardness values used in these equations must be between 25 mg/l and 400 mg/l. For hardness values less than 25 mg/l, use 25. For hardness values greater than 400 mg/l, use 400 mg/l.

Appendix G

Equations For Parameters With pH Dependence

Parameter	4-Day Average Concentration (µg/l)	1-Hour Average Concentration (µg/l)
Pentachloro-Phenol	$e^{[1.005 \text{ (pH)} - 5.290]}$	$e^{[1.005 \text{ (pH)} - 4.830]}$